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ORIGINAL LECTURES.

KNOCK-KNEE AND BOW-LEGS, WITH REMARKS UPON RACHITIS.

Two Clinical Lectures Delivered at the Philadelphia Hospital.

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LECTURE II.

CASE III. *Knock-knee; application of elastic traction brace.*—Frances G. is two and a half years old, and has, as the father states, always been a weak, nervous child, and subject to croup. During the period of her dentition was much troubled by diarrhœa, and very thirsty; also perspired a great deal, and was restless and peevish. The ribs have the "beaded" feel; there is quite a prominent sternum, and all the epiphyses are flattened. The skull also shows evidences of rachitis. On placing the child on her feet, the deformity of the lower extremities, consisting principally of the in-knee deviation, is at once perceived. There is the usual extensive lateral motion at the knee-joints which is also manifested in the other articulations. When I flex the legs on the thighs, the deformity disappears; there is marked projection at the inner side of the knees, due to the hypertrophied internal condyle of the femur. The first thing that attracts attention to these cases is the peculiar gait when the children begin to walk, which they do not attempt, as a rule, until quite late, and, with this, much fatigue is complained of. Pain is not a frequent or urgent symptom, and, when it occurs, is referred to the inner side of the knee.

In the treatment of this case, the same rules should be followed as are applicable to the cure of bow-legs; and as sclerosis has not as yet occurred, I shall use, in addition to the retention braces to be worn throughout the day, an elastic traction brace at night. (Fig. 2.)

It is applied to the external aspect of the limb, and the upright extends well up to the thigh, and is secured at two points, just above and just below the knee-joint so that, in its efforts to right itself, it will produce continuous elastic pressure upon the *hypertrophied internal condyle*. It would be impossible in a clinical lecture for me to describe extensively the various forms of apparatus devised for the relief of this deformity, but among others used for removing it are those which aim at this result by the use of exaggerated interarticular pressure directed against the already hypertrophied internal condyle, thus attempting to produce absorption at this point. This also involves the use of intermittent rather than constant pressure. I am of the opinion that, while *intermittent traction* through soft tissues is of infinite value in the relief of certain deformities, this does not hold con-

cerning intermittent pressure. Apart from the fact that these instruments are complicated and expensive, difficult of adjustment, and liable to constant malposition by slipping, etc., they must depend largely for their efficacy on the constant personal supervision of the surgeon or attendant. Again, the fallacy of attempting to produce absorption by intermittent pressure from without is clearly shown by Sir James Paget, in his "Lectures on Pathology," who, in speaking of atrophy as manifested in the Chinese foot, and also in stumps after amputation, says: "These examples, then, may suffice to show, as I have said, that constant pressure on a part produces absorption. Occasional pressure, especially if combined with friction, produces thickening or hypertrophy, and that these result whatever be the direction of the pressure."

FIG. 2.



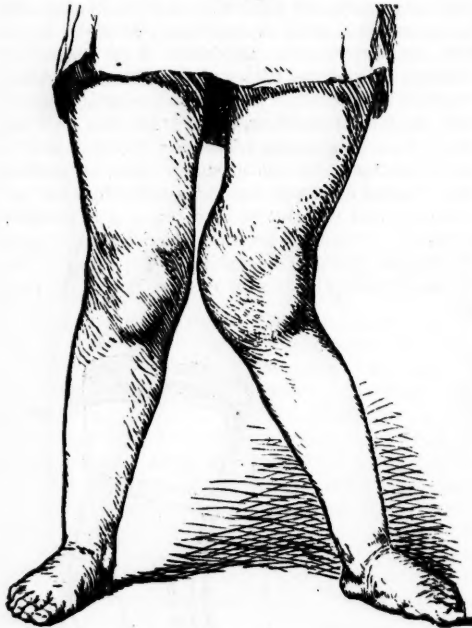
The positive atrophy and absorption of tissues from elastic pressure, on the contrary, are remarkably shown in the destruction and removal of large areas of bone, which frequently occur in aneurism of the aorta, and this brace is constantly exerting a similar influence upon the internal condyle.

CASE IV. *Unilateral genu valgum; osteotomy; cure.*—The next case is one upon which I operated at the clinic a few weeks ago, and is the first osteotomy for *genu valgum* performed at this hospital.

Frank D., aged five, colored, an inmate of the children's ward, presented the following characteristic

rachitic deformities: The vertebræ are rotated upon their axes, and laterally deflected into the deformity of rotary lateral curvature and rachitic, the primary curve existing in the lumbar region. The deformity of the lower extremity presented as a unilateral genu valgum of the left limb. The femur is markedly curved in an anterior and lateral direction, the internal condyle being depressed below the normal plane of the joint, producing a decided in-knee deviation, as seen in Fig. 3, taken from a photo-

FIG. 3.



graph prior to the operation. The duration and pronounced character of the deformity apparently render this patient a fit subject for the operation of osteotomy or subcutaneous fracture of the bone for restoration of the limb to a normal position. Yet, in order to be perfectly sure that the stage of softening had passed, and that nothing more was to be expected from conservative mechanical treatment, I made use of the bone-drill spoken of, before operating, and finding all the indications of sclerosis present, I performed the operation of osteotomy, and am happy to show you the correction of the deformity as seen by these photographs, made prior and subsequent to the operation. (See Figs. 3 and 4.)

Before proceeding to the next case, I think it will be well briefly to call your attention to the different surgical procedures now in vogue for the relief of these deformities, and also to a short, historical account of them. These may be placed under three heads as follows:

1. Forcible straightening.
2. Osteoclasis.
3. Osteotomy.

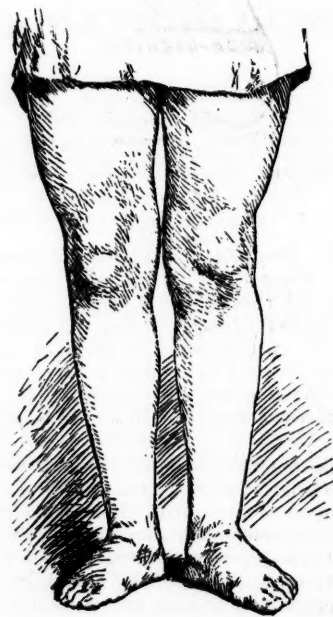
Of the first two mentioned methods, I will not enter into detail. They are approved by many surgeons, especially the French, and successful cases have been reported as having been brought about by these means; Delore, of Lyons, and Tillaux, being their principal advo-

cates. Excellent osteoclasts have also been devised by Colin and Robin.

The brilliant results attained by osteotomy have, however, given this operation the palm, and most surgeons now perform this in preference to osteoclasis.

Although osteotomy for an ankylosed hip-joint had been performed by Rhea Barton, of this city, as early as 1826, it was not until 1852 that Mayer, of Hamburg, first operated for knock-knee. He opened the joint in his

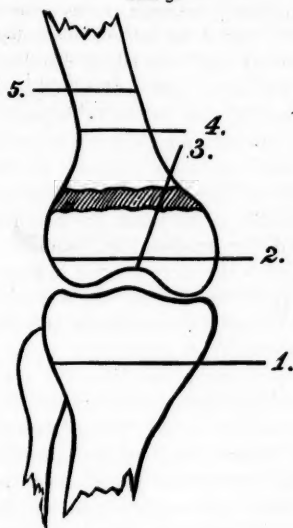
FIG. 4.



operation, and one of his cases died of tetanus. In the same year Langenbeck proposed osteotomy in cases of ankylosed knee. Following this many osteotomies of different articulations were performed, and American surgeons, Pancoast, Sayre, and Brainard, were among the first to practise them. As applied to the deformity genu valgum, the first operator in England was Annandale, who virtually excised a part of the condyles of the femur for knock-knee, the operation being done under antiseptic precautions. Antiseptic osteotomy was introduced by Volkmann, of Halle, in 1875, the same year that Annandale operated. In 1876, Ogston performed the operation, using the saw, and was followed by Schede, of Berlin. The objection to all these operations was the fact that the knee-joint was opened, exposing the patient to even a greater danger than the original deformity. In 1877 Chiene cut through the condyle with a chisel, removing a wedge-shaped piece. In 1878 Barwell performed his "simultaneous multiple osteotomy" which consisted in a division of both femur and tibia. In 1878 Macewen introduced his supracondyloid osteotomy, and this, involving no possible danger to the knee-joint, has been popularly adopted. In 1879 Reeves modified Ogston's operation so that the danger of opening the articulation was reduced to the minimum, the object being, at the same time, to replace the displaced condyle.

The following diagram (Fig. 5) will illustrate the various points of election for the performance of osteotomy.

FIG. 5.



1. Mayer; Billroth; Schede. 2. Annandale. 3. Ogston; Reeves; Chiene. 4. Macewen. 5. Taylor.

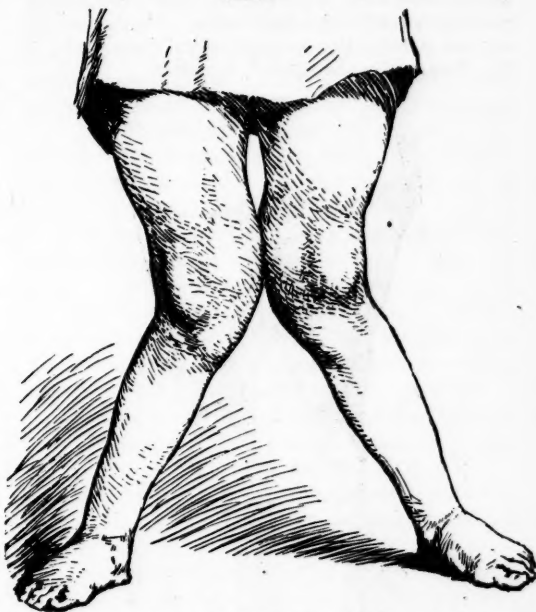
Of all the operations mentioned, I give my personal preference to that of Macewen, and, in the case which I now present to you, propose to perform the operation.

CASE V. Bilateral knock-knee; double osteotomy by Macewen's method; recovery.—The history in brief is as follows: Lottie H., aged five, colored, was admitted into the Philadelphia Hospital in 1881, suffering from severe bilateral knock-knee. No record could be obtained of her previous history, or the time at which the deformity first appeared. You will notice, however, that a marked curvature or in-knee deviation exists in both lower extremities (Fig. 6). The femora have an anterior bend in their lower third, as well as a lateral deviation. Curves of similar character are present in the tibia. On measurement, I find, when the internal condyles of the femur are approximated, the malleoli at the ankle-joint are separated nine and a half inches, as shown in Fig. 6, from a photograph. On account of the long standing and pronounced character of the deformity, having satisfied myself by the drill that sclerosis has taken place, I propose to do a double supracondyloid osteotomy, after the plan recommended by Macewen, of Glasgow.

The patient being anesthetized, and having cleansed the limbs and rendered them aseptic at the point of election for the introduction of the osteotome, the elastic roller of Esmarch is applied, and the limbs rendered bloodless. After securing the vessels by a few turns of rubber tubing, the bandages are removed, and the limbs are ready for puncture, which is made at a point two fingers' breadth above the internal condyle. The osteotome is now introduced down to the bone, and turned transversely to the long axis of the shaft. By a few blows of a heavy wooden mallet, the instrument is driven through the bone, and then withdrawn from the wound, a little force being now required to complete the fracture. Now loosen the turns of the rubber tubing, to ascertain if any hemorrhage has

taken place, and, as you see, this is very slight and mostly venous. The punctures are dusted with iodoform,

FIG. 6.

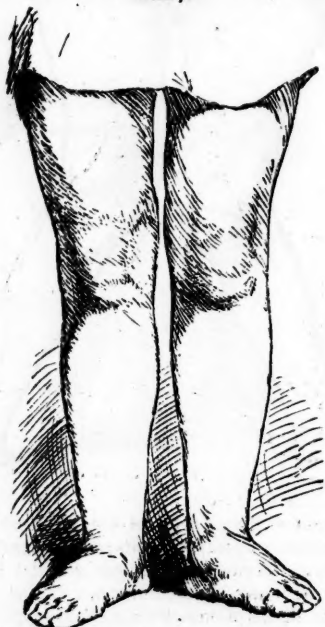


and covered with a pledgets of lint that have been previously soaked in compound tincture of benzoin, which quickly dries, forming an excellent artificial seal. The next step is to envelop the limbs in a flannel roller, and place over all the plaster-of-Paris bandage from the toes to the upper third of the thigh. It is well always to have the plaster thoroughly dried in an oven over night, as it facilitates its setting, and makes a much stiffer and more durable splint; while the plaster is setting, the limbs are "over-straightened," and the knees brought in a position of slight genu varum, by placing a roller bandage between them, and bringing the malleoli together. Three days from the date of operation I shall cut a small fenestrum in the dressing opposite the point of puncture, and examine the wound. Should no unfavorable symptoms intervene—i. e., suppuration or retarded union—the dressing will be removed at the end of six weeks, and the patient placed upon her feet with light steel retention-braces, jointed at the knee and ankle, to allow of motion.

Before closing, I desire to say a few words upon the other causes of knock-knee and bow-legs mentioned in the early part of this lecture. Disturbance of trophic centres acting either upon muscular tissue, destroying equilibrium, or upon the nutrition of the epiphyses, has been assigned as a cause of knock-knee and bow-legs. The most direct results of central disturbance are seen in connection with poliomyelitis anterior (infantile spinal paralysis), and in tetanoid or spastic paraplegia. Here deformity is induced directly by the lack of supporting power in the muscles, as well as the loss of tone in the ligaments, and cannot be explained by the old antagonistic theory of loss of power in one set of muscles, with preponderating action in others. The same conditions obtain which Volkmann had shown to exist in the production of club-foot, the deformity not resulting from loss of muscular antagonism, but rather from growth whilst

the part remains in an abnormal position. It is also probable that in these paralytic cases the changes brought about in nutrition affect the bones to a large extent, as it has been shown that they are much thinner, more curved, and softer than normal. Here we cannot say that rachitis enters as an etiological factor, owing to the absence of its characteristic symptoms.

FIG. 7.



From a photograph taken six months after operation, showing correction of deformity.

The fact that cases of unilateral in-knee deviation are often observed without the association of symptoms denoting the presence of rachitis, has given rise to the idea that there is a condition which affects the nutrition of the epiphyses in such a manner as to produce knock-knee, and that this is a probable result of central changes having their expression in the epiphyseal cartilages of the knee-joint. This is purely theoretical, though not an entirely groundless idea.

I have thus endeavored to give you concisely the principal points in the pathology and treatment of bow-legs and knock-knee, and hope that, with the general indications I have attempted to impress, you will be enabled to cope successfully with these deformities.

ORIGINAL ARTICLES.

THE INFLUENCE OF OBESITY IN YOUNG WOMEN UPON THE MENSTRUAL AND REPRO- DUCTIVE FUNCTIONS.¹

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It is a matter of common observation that when a woman has passed the climacteric, or, in common

terms, *the change of life*, a new era in her existence begins. As in the vegetable world, when the period of fruitage is passed, the foliage assumes luxuriant hues, and autumn becomes to us a synonym for bright colors and a restfulness of condition which tells of maturity and impending physical decay, so in woman we are accustomed to observe with the disappearance of the power of reproduction, the absence of menstruation (which is a normal accompaniment and customary evidence of that power), enlargement of figure, with particular tendency to the accumulation of fat upon the abdomen and the breasts, and the gradual development of mental repose, which is the more striking in those who have previously been characterized by restless activity, if not by mental and nervous disease and disorder.

The autumn of life in women more frequently presents these peculiarities than the corresponding period in men, though similar physical and mental changes in men do occur. It may therefore be considered the order of nature that mature life in women should mean the gradual cessation of the functions of menstruation and reproduction, and the development of obesity, and that there is a mutual relationship between the former and the latter, but that when they occur in young women they are unnatural, and an evidence, to a greater or less extent, of abnormal action.

To continue the simile from nature, young women in whom these conditions obtain are like a fruit tree which bears luxuriantly for a few years and then suddenly stops bearing, or like one which bears no fruit at all, but, instead, a vigorous growth of wood and leaves unless, perchance, new life is infused by judicious pruning and grafting. Of these two types, therefore, one is characterized by continuous child-bearing and lactation for a few years, four, five, or six children being born and suckled in as many years, sterility, amenorrhœa, and obesity following; in the other there is obesity, especially of the abdomen and breasts among married women, while in the young and unmarried the entire body is involved; there is also disturbed menstruation either in the form of amenorrhœa, oligomenorrhœa or dysmenorrhœa, and among the married there is either sterility or a single pregnancy.

The ancient writers including Hippocrates, Avicenna, Laurus, and Hoeslerus have recorded opinions which are in harmony with the foregoing statements,¹ and it is somewhat surprising that the

¹ Read before the annual meeting of the New York State Medical Society, February 7, 1887.

¹ Hippocrates considered obesity a cause of infecundity, and observed that it was also characterized by scanty and irregular menstruation. His theory as to the cause of sterility was that the *os uteri* closed by fat would not admit the semen. The scantiness of the menstrual fluid also signified the absence of a sufficient degree of intrauterine moisture to render conception possible. Complete works of Hippocrates translated (French) by E. Littré. II. 75. Quoted by Worthington: *De l'Obésité*, Paris, 1875, p. 56.

law which evidently obtains in this matter has been so generally overlooked by modern and contemporary observers; at least I have found very little reference to it in recent literature. That law may be formulated in the following terms:

1. A woman under thirty years of age who bears four, five, six, or more children in rapid succession and suckles them, prematurely reaches the limit of her physical powers as a reproductive animal, the phenomena of the climacteric supervening. This applies to the average woman under present conditions of civilization and, in a marked degree, to those who become obese after so frequent pregnancies.

2. A woman under thirty years of age who becomes obese, from whatever cause, will, as a result, be subject to amenorrhœa, or oligomenorrhœa (a term which I have proposed as a synonym for scanty menstruation), and usually to dysmenorrhœa, though menstruation may previously have been nearly or quite painless. If such patients be married sterility will be the rule. This law, like most other laws, has more or fewer exceptions, but observation and reflection during a not inconsiderable experience have convinced me of its existence.

Concerning the pathological anatomy of this subject, it is unfortunate that there are so few records of post-mortem investigations.¹

None of the cases which have come under my observation have, as yet, terminated fatally. In most of them there has been heart weakness, which is particularly noticeable after any physical exertion, but I have never been able to detect more than a functional disturbance. In some cases there is not only a great increase in the volume of fat in those situations in which it is normally deposited, but the underlying muscular tissue is infiltrated, and this infiltration affects both voluntary and involuntary muscle. In the former I have seen it result in the separation of important muscles from their bony attachments, and it is these extreme cases, of course, which illustrate most forcibly the law which was enunciated. In the involuntary muscular system it is perfectly well known that the heart is susceptible to fatty infiltration, and it is probable, to say the least, in view of the clinical phenomena which are concerned, that similar changes affect the uterus.²

Schroeder divides the puerperal atrophies of the uterus into three varieties, the second being that

¹ Worthington gives an account of an autopsy which was made upon a middle-aged woman who weighed nearly 400 pounds, but no examination of the uterus appears to have been made. The other abdominal viscera were abundantly supplied with fat. *De l'Obésité*, Paris thesis, 1875.

² It may be observed that the process of fat accumulation, according to Robin, involves the reception of that substance in emulsion in the fibro-plastic cells of connective tissue, contiguous to muscular tissue.

which occurs after a normal labor and childbed with or without lactation in women of bad nutrition. Frommel³ has seen 28 cases of this variety among 3000 cases of diseases peculiar to women. The patients were between nineteen and forty years of age, and showed no evidence of uterine or circum-uterine inflammation. They suffered from severe abdominal pain, however, and atrophy of the tissue of the body and neck of the uterus, and of the vagina. The tissues were very soft, and easily penetrable by the sound. Frommel believed that in many women the uterus undergoes such excessive involution in consequence of lactation that subsequent restoration to a normal condition does not occur. He also believed that in cases in which a considerable number of pregnancies have followed each other in quick succession, the demands upon the genital apparatus have tended to produce permanent atrophy. Frommel's patients presented a "prematurely old" appearance. Whether this has any reference to obesity I cannot say, as the details of his cases are not given in his paper. The condition of the genitals, however, corresponds with that which I have observed in similar cases, and associated also with obesity.

Grigg,² in an article on "The Infantile Uterus," refers to a form of atrophy of the uterus and ovaries which occurs in early life as a sequence of parturition. He also states that a small and atrophic uterus may sometimes be found in well-developed women, associated with irregular, scanty, and painful menstruation. Atrophy of the uterus has been present in almost every case which I have seen which bears upon the subject. In fact, it was the repeated coincidence of uterine atrophy with obesity which drew my attention to the latter as a possible cause or factor in the production of the former. The length of the uterine canal in these cases has not been much less than normal, but the feel of the organ, both by the bimanual and the vaginal touch, is that of the uterus of old age, and the vaginal and cervical tissues are pale and senile in appearance.

The works of Mörice, Wyder, Leopold, John Williams, Putnam Jacobi, and a few others, during the past ten years, upon the endometrial mucous membrane and its functions has shown that sterility is usually caused by incompetency of that membrane to develop into a decidua, rather than by any fault in the ovaries and ova. A diseased condition of the endometrium with imperfect glandular apparatus and imperfect vascularization, together with a weakening of the muscular structure of the entire organ, would also account for scanty menstruation and dysmenorrhœa, all of which occur in the cases which are under discussion. It is to be regretted that the

¹ *Zeitschrift f. Geb. u. Gyn.*, 1882, vii. S. 307.

² *Obst. Journ. Great Britain and Ireland*, Feb. 1875, ii. p. 699.

evidence which is presented is only of a clinical character. Opportunities for more profound investigation may occur in the future; perhaps even this paper may stimulate some one who is better qualified than the writer to continue the investigation. With regard to the influence of displacements which might be suggested as coincident with obesity in causing sterility and dysmenorrhœa, I have seen no cases in which this factor entered, all the causative elements being physical rather than mechanical.

When sterility is present in these cases it is often the cause of great annoyance and unhappiness, even among those who have already borne several children. One of my patients was an Irishwoman, twenty-six years of age, who had borne six children in as many years, and was worried and unhappy because she had not become pregnant a seventh time. The maternal instinct was very strong, but she had become very fat; her uterus was atrophied, and the outlook for any further enlargement of her family entirely hopeless.

Two other patients were prostitutes who had never been pregnant. In one the uterus was atrophied, the menses had been entirely absent four months, and she feared that she was pregnant. In the other the uterus was nearly normal in size and appearance, but the menstrual flow was very scanty and pale, and she suffered with severe *backache* and *bearing down* pains, two or three days before the flow appeared, and during the two or three days of its continuance.

Another patient, twenty-six years of age, has been married three years, is sterile, and suffers with severe *backache* and *headache* before and during menstruation. The flow continues one day and is very scanty and pale. Coitus is painful, and there is an absence of sexual appetite, except just before the period, when it is exaggerated. Her uterus is small and hard, and she has occasional attacks of syncope.

A fifth patient is twenty-five years of age, married, and has been growing very stout for two years. She had a child three years ago, after a long and severe labor, and since then has been sterile. Menstruation recurs regularly, lasts three days, and the blood is ejected in clots. Severe pain in the back accompanies the discharge. Both the cervix and body of the uterus are atrophied.

A sixth patient is twenty-six years of age, has been married three years, has been pregnant but once, and did not carry the foetus to term. When first seen she had not menstruated for three months.

In an interesting work on obesity, by Worthington,¹ the testimony of various writers as to the bearing of this condition upon menstruation and reproduction is summarized. Among this author's cases was one

of a woman who became obese at the age of thirty-four, one year after the birth of her first and only child. In addition to sterility she suffered from irregular and scanty menstruation.

Glais¹ has recorded twelve cases in which obesity was mistaken by the patients for pregnancy. Amenorrhœa was present in almost all of them. Depaul² has stated that he has frequently been consulted by women who have rapidly become obese, especially upon the abdomen and breasts, under the supposition that they were pregnant. Amenorrhœa has been an accompanying symptom. Kisch³ observed 208 cases in which obesity was associated with amenorrhœa or oligomenorrhœa, either as cause or effect. In many of the cases obesity was the only cause which could be suggested for the coexisting sterility. This testimony as to the correlation of obesity with disorders of the menstrual and reproductive functions warrants, in my judgment, the following statements with reference to symptoms: Sterility will be the rule, whether the patients have previously borne children or not. Should pregnancy occur, the impaired nutrition of the uterus will operate unfavorably upon its continuance to term. Should gestation be completed, it is not improbable that the offspring will be deficient in vitality, as has been demonstrated by Eunsen.⁴ Menstruation usually occurs at regular intervals; several months may elapse between consecutive periods.

The quantity of blood which is lost during menstruation is almost always less than normal, and it lacks the character of normal menstrual blood. It is often only blood serum, containing a few epithelial cells. It may be expelled from the uterus in the form of poorly organized clots. The duration of the period may be a few hours, or a single day; I can find no record of its exceeding three days. It may continue a short time, cease, and after a few hours, or even a day or two, begin again, and continue another brief period. Pain is an almost constant symptom, beginning a few hours, or even several days before the flow appears, and continuing until the latter ceases. It is in the sacral region, in almost all cases. There is usually a sense of pain and fulness in the head. In particular cases there are *bearing-down*, or expulsive pains.

Vicarious menstruation has been observed in the form of nosebleed and bloody diarrhœa.

The sexual appetite is abolished in many cases, but in some it is quite pronounced during the few days preceding menstruation. Coitus is not infre-

¹ Paris thesis, 1875: quoted by Worthington, op. cit.

² Worthington: op. cit.

³ Die Fettleibigkeit der Frauen in ihren Zusammenhänge mit den Krankheiten der Sexualorganen, Prague, 1873: quoted by Worthington, op. cit.

⁴ Neue Ztsch. f. Geburtsh., vii, 1, 1841: quoted by Worthington, op. cit.

¹ Paris thesis, 1875.

quently painful. In one case, which was seen in consultation, there was acute hyperæsthesia of the entire genital tract, the patient having been under treatment for nymphomania. Such a condition of affairs is probably exceptional. The general condition is that which is common to those who suffer from adiposis, namely, impairment of the physical and mental powers, with disinclination to the performance of the ordinary duties of life. Constipation is almost always a troublesome symptom.

The causes which lead to obesity with its accompanying symptoms are usually discoverable, even if not always remediable. In most cases there is nothing peculiar about the process, the causes being such as would conduce to obesity in the opposite sex.¹ Among these may be mentioned an hereditary predisposition to obesity, derived from one or both parents, luxurious habits, sluggish disposition, an inactive life, excessive sexual indulgence, and the free or immoderate use of starches, fats, and sugar. An inordinate fondness for confectionery may be expected, as the rule. In those who assume obesity as a consequence of what may be called excessive childbearing, the causes may be considered identical with those which obtain when the climacteric occurs at the customary period, namely maturity of the physical powers, in so far as they appertain to the reproductive function, and diversion of the nervous energy from the sexual apparatus. My experience in this respect harmonizes with the views of Sir James Simpson and Frommell.

The prognosis in many of these cases may be considered exceedingly good, excluding, of course, those in which the climacteric has followed extraordinary fruitfulness. For the latter the condition of sterility is permanent, and I doubt whether any system of treatment could change it. It is the order of nature. For the others a properly regulated diet is of primary importance, hydrocarbons being eschewed in favor of albuminoids. Alcohol in any form is contraindicated. Suitable exercise must be insisted upon, either by the performance of the active duties of household life or a suitably arranged course of gymnastics, including *massage*. Worthington recommends² the systematic use of the waters of Vichy, Marienbad, Carlsbad, or Ems. I am profoundly impressed with the value of electricity for this condition both in the form of general faradization and the intrauterine use of the faradic current. Not only will the muscular tone of the uterus be improved by this means but the entire pelvic circulation will be favorably affected. I have seen some cases which seemed to be benefited by the use of astringents and stimulants to the interior of the uterus, also by

moderate dilatation, but the same means have also been successful in exciting violent inflammation, which leads me to be cautious in recommending them.

The systematic use of laxatives will be required in almost every case, and we should look well to the condition of the heart, using suitable tonics as they are indicated. The internal use of iodine and its compounds has not been attended with the success which its early advocates would lead one to expect. Worthington approves highly of hydrotherapy, especially sea-bathing. Warm baths are, of course, to be avoided. As Worthington has suggested, it is not improbable that one who succeeds in relieving a patient of her obesity will, at the same time, cure her sterility, even without intrauterine medication, and this opinion is shared by Roubaud.¹

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THE OCCURRENCE OF COMA IN SUDDEN SPONTANEOUS BRAIN LESIONS.

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THIS symptom is one of the most striking and more frequent of those attending intracranial accidents. The absence of coma in some cases even of large cerebral hemorrhage, its occurrence in many cases of limited lesion, and often, but inconsistently, in cases of cerebral embolism are trite facts. No acceptable theory has been proposed to explain or harmonize these apparent discrepancies, and consequently the symptom has not acquired any definite clinical value. It is certainly permissible to attack such a problem in any way that presents, and whilst a complete explanation is not possible, yet it is believed that the symptom can be made clinically available for some classes of cases. Any study of the different forms and degrees of coma will not be attempted. For a brief definition of the term we may cite Gowers. "The prominent feature of apoplexy is loss of consciousness without obvious failure of the heart's action." In some cases consciousness is simply lost or clouded for a few moments; this can hardly be called coma. Often, unfortunately, our knowledge of the loss or retention of consciousness rests on very unreliable statements. Even careful observers may differ in what they call coma. It should be remembered that the symptom is a general ("diffuse") one, and may be produced by lesions on either side of the brain. "An apoplectic attack, coma, and also delirium, may occur without anything abnormal being found in the brain (or other part of the body) at the autopsy." Lesions of the cord, below the pyramids of the medulla, do

¹ Manifestly an exception is made in those cases in which obesity follows frequent parturition and lactation.

² Op. cit.

¹ Traité de l'impuissance et de la stérilité chez l'homme et chez la femme, Paris, 1872.

not cause coma, though, if in the cervical portion, sudden death may result.

Suddenness of the lesion and increased intracranial pressure are acknowledged factors. Personal observation, and a study of the subject indicate that the seat of lesion is also an important factor. Evidently this view has never met with favor, though general opinions, for and against it, might be quoted. To determine its truth will be one of our objects, especially in view of the opposite opinion so positively adopted by such a recent writer as Wernicke. He assumes that a slower arterial supply, and freer venous discharge explain the slighter mental disturbance in hemorrhage into the mantle-zone. This factor of suddenness is, on the other hand, most prominent in embolism; hence, coma should follow embolism affecting this region, if his attempted explanation were correct.

There are three classes of cases that might come up for consideration, viz., hemorrhage, embolism, and thrombosis. Thrombosis and spontaneous softening may occasion loss of consciousness, but are of little value in this discussion. The rapidity with which the former develops, is variable and uncertain. Moreover, it often results from causes that affect the circulation in other parts of the brain, *e. g.*, atheroma, syphilis, neoplasms, and general exhaustive diseases. In many cases of (so-called idiopathic) softening, the rest of the brain is not entirely healthy; the softening represents what has become irreparable.

It is better to begin with the study of embolisms; because,

1. In them, one factor, that of increased pressure, is absent.
2. Their onset is more typically sudden.
3. The portions of the brain most frequently affected by them interest us first.

EMBOLISM.

The effect of embolism on consciousness is considered less subject to rule than that of hemorrhage. The study of these accidents proves to us, however, that increased brain-pressure is not an essential or the only factor in the causation of coma.

There are a variety of matters which render it difficult to determine the effect on consciousness of an embolic insult to a given part of the brain.

a. The large amount of brain-tissue directly menaced in most cases. Even where softening follows, it does not often include the whole district at first deprived totally or partially of arterial blood.

b. It is questionable whether in all cases the artery is at once completely occluded. Wernicke thinks it admissible to assume this for most cases. However, this is not always true, and, when not, the shock or suddenness of the attack would be mitigated.

c. Many emboli soften and break up, thus either entirely disappearing, or only remaining in part in the shape of smaller emboli in terminal branches of the originally occluded vessel. When this happens early enough, softening is prevented, and we may have no permanent symptoms (no matter how severe the onset), and little or nothing to demonstrate, should the subject come to autopsy. Or, again, softening may have set in before the embolus was dislodged, when there would be nothing to show as the cause.

d. Another possible element of uncertainty lies in the usual co-lesion of the meninges, or at least some extent of the pia mater. The effect on consciousness of injury to this structure is doubtless slight.

e. In a goodly proportion of cases, embolism occurs in persons whose brain-circulation has been greatly weakened by preëxisting intrathoracic disease. In such, evidently, a much smaller shock might cause loss of consciousness. In reality it then appears very similar to syncope. The subject falls, if upright, but on being thus obliged to lie down, the circulation in a few minutes reëstablishes its equilibrium sufficiently to support consciousness, and the person revives. Such transitory loss of consciousness can hardly be called genuine coma.

A few opinions regarding the present subject may here be introduced, though rather to show the chaos of views that exists than for their real value.

Wilks (*Lectures*, p. 120) says:

"It might be thought that unconsciousness would be less likely to occur in embolism than in sanguineous effusion; but this is not always the case, for although it is true that there is often complete coma in large effusions from rupture of small vessels, as in ingravescant apoplexy, the unconsciousness and mental confusion are often less than in embolism."

Flint (reported in *Boston Medical and Surgical Journal*, 1879, vol. c. p. 668) says:

"From the long continuance of coma, we are justified in considering that the symptoms are probably not due to embolism, but rather to cerebral hemorrhage."

Wernicke (Bd. ii. 136) writes that

"Clinical experience shows unmistakably that isolated embolism of small vessels, up to the calibre of the largest perforating arteries, or the branches to Broca's convolution, does not usually suffice to produce unconsciousness and the fully developed apoplectic insult."

Sachs (*Journal of Nervous and Mental Diseases*, Aug. 1887, p. 507) states that

"It is well known that embolism is far more frequently accompanied by loss of consciousness than hemorrhage. The plugging of even a small cerebral artery is almost invariably followed by loss of consciousness."

Nothnagel (*Top. Diagn.*, 1879, p. 612) holds that

"Observation teaches that in any localization whatever a hemorrhage may set in with loss of conscious-

ness, that, however, it may be absent in any [region], even in the cortex. There is no locality from lesion of which 'the apoplectic insult' must regularly be present or absent."

He adds that large hemorrhages and embolisms with extensive ischæmic districts produce a severe attack, though the converse is far from being as generally true.

LIMITS IN THE SELECTION OF CASES.

It is necessary at the start to simplify the investigation as much as possible. In fact any successful study of the subject must largely depend upon the proper exclusion of irrelevant and misleading cases—a principle urged in another connection by Nothnagel in his "Topical Diagnosis."

1. All cases without autopsies are to be excluded.
2. All cases brought on by external shock.
3. All cases attended by convulsions.

Trousseau, *e. g.*, says that convulsions suffice to produce apoplectic stupor, and we have but to note the usual effect of an epileptic attack.

4. Many cases are poorly suited to our purpose, where the person has had a previous apoplectic or apoplectiform attack, is subject to epilepsy, is suffering from other nervous or severe bodily disease, or where there are bilateral or multiple brain lesions.

5. All cases where important particulars are wanting, *e. g.*, where the embolism occurred during sleep.

6. All where the subject was under twenty-one years of age. Children are known to be more subject to convulsions and coma than adults. Many persons certainly attain their development before twenty-one, but to exclude the element of infancy or youth this age has been universally adopted for other purposes and may well be for ours. Perhaps old age ought also be a ground for exclusion, but as senility does not come on with much regularity, such limitation will not be attempted.

7. In making what may be regarded as a primary study of the subject it is better to include only cases where the injury was limited to particular parts or structures. This is necessary before studying the results of co-lesion—even though partial—of two or more structures. As embolism but rarely affects any one of the basal ganglia singly we shall now take up only those cases where the embolic softening was wholly in the extraganglionic portion of the cerebrum (Mantelzone of the Germans).

EMBOLISM OF SYLVIAN (MIDDLE CEREBRAL) ARTERY OR ITS BRANCHES.

From the seat of an embolism in this artery no sure conclusion can be drawn as to the exact portion of brain that will consequently soften. That an embolus in its more peripheral portions would rather cause a cortical and sub-cortical softening, and one in its beginning more often softening about the

striated body, internal capsule, etc., is probable but in reality uncertain. This fact seems to have been ignored by most who have touched on the subject.

Hughlings Jackson says that in embolism of this artery "there may be no loss of consciousness and the hemiplegia may be transitory, though patients sometimes die in a few days in an apoplectic manner."

S. Mackenzie (*Brain*, 1878, iii.) writes that "most authorities agree that loss of consciousness is unusual in embolism of a Sylvian artery, though Niemeyer is a marked exception. Loss of consciousness may occur and be as complete as in severe hemorrhage, but this is unusual."

Nothnagel, holds that "while embolism of the Sylvian artery is, as a rule, attended with symptoms of apoplexy, yet it may occur without them," and Wernicke (ii. 136), that "embolism of the Sylvian artery before its bifurcation, or of one of its two chief branches, regularly causes a developed insult." He thinks that where this does not occur, we are to look for exceptional conditions (partial occlusion, etc.).

The accompanying table gives a nominal total of 32 cases (or 36 presumable embolisms), and includes all so far collected that come within the limitations laid down. No. 15 is insignificant. No. 32 occurred at night, in a patient with high fever. From complications and imperfect descriptions of the onset, several of the other cases are not entirely desirable; Nos. 15 and 32 may, therefore, be excluded, though they present nothing against conclusions drawn from those remaining.

This leaves 30 cases (not counting double ones) involving, one with another, a large part of the brain-mantle—a number sufficient to justify conclusions. Only in Nos. 7, 9, 18, and 26 was there any question of coma at the onset. The other 26 (resp. 30, separate embolisms) occurred without this symptom. In No. 7 a really comatose state did not develop—delirium from *second* attack. In No. 9, also, at *second* attack there was but momentary loss of consciousness—again not genuine coma. In No. 18 the short loss of consciousness (for ten minutes) is easily accounted for. The patient was in a fever, and one thoracic cavity was quite two-thirds filled by a recent effusion. The heart was slightly displaced, and the pulse weak. Moreover, the softening was beside the striated body—not superficial—and at first that structure may well have been implicated. This leaves but one, No. 26, amongst all the cases, that is exceptional, and even that is not necessarily so. It was presumably, though not certainly, due to embolism. There was bilateral cutaneous anæsthesia—absolute on the right, and nearly so on the left—of five days' duration. Five months later there was, for one day, a return of the various symptoms (at least aphasia, etc., and anæsthesia, though of a

TABLE OF CASES.

No.	Observer.	Publication.	Sex.	Age.	Embolism.	Softening (extent of).	Remarks.
1	West,	Brit. Med. Journ., 1885, i. p. 1242.	M.	66	Branch of Sylvian.	Left supramarginal and angular gyri.	
2	Bourneville et Bonnaire,	Prog. Méd., 1882, p. 239.	M.	54	Believed to have been embolic.	First and part of second temporal convolutions, also larger part of lobule, du pli courbe and insula.	
3	D'Heilly,	Gaz. Heb., 1882, p. 54.	F.	24	Fourth branch of Sylvian.	Gray cortex implicating inferior parietal lobule and part of first sphenoccipital convolution.	Phthisis.
4	Bancroft,	Boston Med. and Surg. Journ., 1881, p. 483.	M.	60	Branch of Sylvian.	Anterior portion of middle lobe 3-4 inches in diameter, also insula superficially.	One of repeated attacks, probably of embolism.
5	Goldtdammer,	Berl. kl. Wochr., 1879, p. 367, Case III.	F.	36	Pia branches of Sylvian.	Whole of posterior central, part of anterior central and of first frontal, and most anterior supramarginal convolutions.	
6	Magnan,	Brain, 1879, Case III.	M.	42	Considered embolic	Involved temporal and third frontal convolutions.	Complications.
7	Guitéras,	Phil. Med. Times, 1878, ix.	M.	58	1. Embolic. 2. Posterior branch of Sylvian.	1. Gray matter for 1 inch at middle and lower third of anterior central convolution. 2. The transition convolutions with posterior half of angular gyrus and of first temporal.	Two attacks, delirious (semicomatose) in second only. Focus also in cerebellum.
8	Poulin,	Bull. Soc. Anat., 1878, p. 577.	M.	...	Branch of Sylvian.	Superficial of anterior and posterior central convolutions.	
9	Seguin,	Trans. Am. Neurol. Assoc., 1877, Case II.	F.	...	Middle cerebral, half inch from its origin.	Posterior end of third frontal and anterior half of insula. (The previous attacks were represented by softening in opposite third frontal convolution.)	Two previous attacks on other side; only in second was there loss of consciousness for a moment; later epileptic seizures.
10	Prevost and Cotard,	Études, etc., 1886, Obs. 26 (<i>vide</i> Wernicke, ii. p. 138).	F.	83	From atheroma.	Plaques on all the right frontal convolutions, on several occipital, and at bottom of central fissure. Basal ganglia intact.	Two attacks, each without coma.
11	Prevost and Cotard.	Obs. 3 (<i>vide</i> Wernicke, ii. p. 138).	F.	70	From atheroma.	Part of inferior frontal, of both central, and the two anterior insular convolutions; anterior part of temporal lobe.	First attack.
12	Radcliffe,	London Lancet, 1866, July 28.	M.	27	Sylvian artery at a bifurcation.	One third of middle lobe.	
13	Ogle,	Pathl. Trans., 1867.	M.	45	Branch of Sylvian, at a bifurcation.	Posterior part ($\frac{3}{4} \times \frac{3}{4}$ inch) of third frontal convolution, also smaller spot beneath end of Sylvian fissure.	
14	Moxon's service at Guys,	London Lancet, 1868.	F.	58	Sylvian at its first branching.	Corresponding gray and some of white substance, cedematous, etc.	
15	Berkley,	MED. NEWS, 1882, ii. p. 61.	M.	73	Minute artery.	Nodule half thickness of cortex in anterior central convolution.	
16	Begbie,	Edinburg Medical Journal, 1866, p. 122.	F.	22	Sylvian beyond a second considerable branch.	White substance external to posterior half of striated body.	Complications.
17	Fritsch,	<i>Vide</i> Starr from Wilband's Hemianopsie.	Parieto-sphenoidal branch of Sylvian.	Entire lower parietal lobule and part of cortex of second occipital convolution.	
18	Vallin,	Gaz. Heb., 1870, No. 5, p. 77.	M.	21	Two branches of Sylvian.	Near corpus striatum and at posterior extremity of this patch was a cavity filled with débris.	At first unconscious, but recovered in ten minutes (<i>vide infra</i>).
19	Greenlees,	Amer. Journ. Ins., April, 1887, Case IV.	M.	32	Greenlees says evidently from embolism of Sylvian.	Lower frontal, both central and anterior part of first two temporal convolutions; whole of insula to striated body.	In an imbecile.
20	Estorc,	Mont. Med., 1882, (<i>vide</i> Charcot and Pitres, Rev. de Méd., 1883, Ob. 55.	F.	32	Evidently from embolism.	Cyst in white substance of central region.	Prolonged onset.
21	R. Atkins,	Brit. Med. Journ., 1878, May 11, Case vi.	F.	68	Middle division of Sylvian was obliterated (anterior parietal of Duret).	Lower part of posterior central, extending into centrum ovale. Optostriated bodies free.	Without doubt embolic, he says.
22	Rosenthal,	Wien. Med. Halle, Mai 18, 1862, iii. (<i>vide</i> Schmidt's Jrbch., Bd. 117, Case 6.)	F.	27	Sylvian artery.	Nut-sized focus in white substance.	

TABLE OF CASES.—Continued.

No.	Observer.	Publication.	Sex.	Age.	Embolism.	Softening (extent of).	Remarks.
23	Tassi,	Rev. sper. di freniat. Journ., 1880, p. 193 (<i>vide</i> Charcot and Pitres, Rev. de Méd., Oct., 1883, p. 864-5).	M.	37	Sylvian at its ramification.	Posterior upper part of frontal lobe.	Onset somewhat gradual; epileptiform attacks some days later.
24 ¹	R. McDonnell,	Brit. Med. Journ., 1877, ii. p. 49.	M.	64	Branch of Sylvian to Broca's convolution was completely blocked.	Left third frontal convolution.	Onset not directly stated.
25 ¹	Beaumanoir,	Arch. Gén. de Méd. Navale, 1879 (<i>vide</i> Charcot et Pitres, Rev. de Méd., 1883, Obs. 56.)	M.	36	Plug in Sylvian, extending into three superficial branches.	Superficial; central masses intact.	Phthisis.
26 ¹	Nothnagel,	Topische Diagnostik, 1879, p. 427.	M.	28	Only mentions embolisms in other parts of body.	Cortical alteration involving somewhat the anterior central, second and third frontal, and third, fourth, and fifth insular convolutions. Cortex adherent to pia, forming a hard plate.	Loss of consciousness for an hour (<i>vide</i> infra).
27 ¹	Webber and Wyman,	Boston Med. and Surg. Journ., 1880, vol. ciii. p. 109.	F.	59	"Apparently from plugging of a vessel" (atheroma).	Left insula much softened.	Other and older cerebral lesions.
28	Seguin,	Journ. Nerv. and Ment. Dis., Jan. 1886, Case 45.	M.	46	Occipital artery (3d branch of posterior cerebral).	Cuneus, extending into temporal gyri and hippocampus.	
29	Wilbrand,	Deut. med. Wchr., 1885.	M.	60	Described as an embolism.	White substance of occipital lobe shrunken, etc.	Thalamic and other foci from a later attack.
30	Haab,	Klin. Monbl. f. Augld., 1882 (<i>vide</i> Jour. Nerv. and Ment. Dis., 1886, pp. 18 and 22).	M.	68	Evidently embolic.	Cyst of softening in occipital lobe.	Onset not directly described.
31	Curschmann,	Centrbl. f. Angkld. <i>vide</i> Frere, 1882, Obs. 60; also Rep. 7th German Cong. in Wien. Med. Wochr., 1887, p. 682.	M.	50	"of corresponding artery."	Cuneus.	
32 ²	Charcot,	Leçons, etc., Paris, 1872-3, pp. 72 and 74.	M.	22	Posterior cerebral artery.	Nearly the whole occipital lobe.	Typhoid fever; whether the embolism caused or only accompanied delirium is not clear.

¹ The cases were not published as embolic.² Cases 28 to 32 inclusive, represent embolism of an occipital artery or branch.

different form). It was simply stated by friends that he had rolled his eyes, groaned, and lost consciousness for perhaps an hour. The peculiarities of this case may have been due to multiple emboli or an epileptiform complication.

There is also the possible explanation for any unusual case, that at first the embolus cut off vessels to the central ganglia. Hence, in 30 (resp. 32) cases, or in 32 (resp. 36) embolisms affecting only the brain-mantle, there is at most but one exception—and this doubtful—to the rule that embolism of this region in the adult does not cause coma. This is a result quite as uniform as other accepted facts in cerebral symptomatology. If, as proposed, all cases not described as embolic, and all not free from important complications, had been excluded, the uniformity would have been complete. But, for reasons

already given, exceptions, apparent or real, will occur; it seemed, therefore, better to include the most probable so far found.

These cases do not, it is true, include all parts of the brain-mantle; yet they do cover about all that is often affected by embolism, or of which we have much knowledge, clinical or physiological. They extend over the whole period of adult life, from twenty-one to eighty-three years of age, and include both sexes (males, 20; females, 11; not stated, 1). The list presented makes no pretension to completeness, though cases satisfying the requirements are not plentiful. Bilateral embolism seems commonly, though not always, to cause coma. At least in Stewart's case (*Med. Times*, 1864, v. *Journ. Ment. Sci.*, 1868, p. 66), plugging of both Sylvian arteries, with resulting walnut-sized softening on each side, in

a man of twenty-one years, occurred without coma. Though this was presumably thrombotic, yet it indicates that the same might occur in embolism.

In any individual case, embolism limited to this region does not involve a *relatively* very large part of its whole, nor does it cut off tracts to other parts of the cortex (except, of course, association fibres). Hence it does not deprive of their function parts of the cortex not directly injured, and we have essentially symptoms confined to the part lost (ausfall-symptome of the Germans). If the area destroyed were sufficiently large—how large cannot be stated—there is no question but that coma would result; nor is there any doubt that lesions in this region have some tendency to cause coma. Only, in practice, embolism alone does not suffice.

Taking the cases as they stand, multiple attacks and all, delirium or some obscuration up to temporary loss of consciousness is noted in 5 out of 36 attacks. Lesser disturbances are very common. The present cases do not show whether lesion of different equal areas of cortex has or has not a like effect on consciousness, though destruction of sensory centres seems to be better tolerated.

CONCLUSIONS.

1. In adults free from relevant complications, embolism involving directly only extra-ganglionic portions of the cerebrum, does not cause coma.

2. Conversely, where the diagnosis of cerebral embolism is warranted, primary coma indicates implication of the basal ganglia or brain-stem.

3. The absence of coma does *not* preclude involvement of the said lower structures.

4. From the fact that more limited embolic injury involving other portions of the brain is frequently attended by coma, it follows that the location (or seat) of a cerebral lesion is one of the important factors in the causation of this symptom.

5. Wernicke's view, that the slighter disturbance of consciousness by hemorrhage into this region—as compared with hemorrhage into other portions of the brain—is owing to circulatory peculiarities, and hence to the absence of the factor of suddenness, is disproven.

6. Of course, thrombosis also, *under like conditions*, would not cause coma.

7. Whether embolism of the Sylvian trunk will or will not cause coma, is a useless question. It depends on the structures supplied by that artery in any given case.

8. It must not be considered that the above conclusions at all disprove the accepted view that the cerebral cortex is the seat of higher consciousness.

From the basis thus gained it will be possible to take up more intelligently the subject of hemorrhage into the same, and even other regions of the brain.

A CASE OF PENETRATING GUNSHOT WOUND OF ABDOMEN; NO VISCERA INJURED; RECOVERY.

BY GEORGE S. BROWN, M.D.,
OF BIRMINGHAM, ALABAMA.

B. C., white, æt. thirty-two, puddler by occupation. On December 2, 1887, about 12 o'clock noon, received a pistolshot wound of the abdomen from a 38-calibre Smith & Wesson revolver, at a range of ten or fifteen feet. Dr. Douglass, of this city, was called and found the wounded man where he fell. He administered a hypodermatic of morphia, and had the patient removed to his home two miles distant.

I saw the patient two hours later with Dr. Douglass. He was then comparatively comfortable, having suffered no noticeable shock. On examining the belly we found the bullet wound about three and a half inches to the right of, and on a level with the umbilicus. The direction of the wound was toward the median line and slightly downward. The thickness of the abdominal wall and the different conditions of contraction of the powerful muscles from that in which they were when the wound was received, rendered it impossible to say to a certainty that the ball had entered the cavity. The doctor ordered a two grain opium suppository, and we left him to get ready for an operation.

At 6 P.M. the pulse beat was 95, temperature 100°. At 9 P.M. pulse 110, temperature 101½°. At 12 M. pulse 130, temperature 103°, and all symptoms of an acute general peritonitis had set up. After consultation with Drs. Morris, B. T. Jones, Hargrove, and Douglass, and through the courtesy of the latter gentleman, I operated with the assistance of all. The wound was slightly enlarged, and under ether the track could be followed to its entrance into the cavity. An incision was then made in the median line from the umbilicus to the pubes, after shaving and cleansing the parts. All bleeding of any consequence was stopped before entering the cavity. The bowel was removed and carefully examined for wounds, being handled on towels wrung out of hot bichloride solution. After a thorough search of half an hour we failed to find any damage done, except the ragged hole through the parietal peritoneum, which was one and a half inches nearer the median line than was the external wound. No further trace of the ball could be found. Although the opening of exit from the cavity must have been there it was unavoidably overlooked. It could not be felt and the lamp we were working by did not give sufficient light to illuminate the cavity.

The visceral and parietal peritoneum was brightly congested, with minute patches of lymph deposited on their surfaces. About six ounces of bloody serum was sponged out of the cul-de-sac, and the cavity was then flooded with mild bichloride (1:6000) solution. The bowel returned, the cavity was again flooded and emptied, and then closed. A small rubber drainage-tube was left in the lower angle of the wound. A dressing of iodoform, absorbent cotton, and a roller was adjusted, and the patient put to bed.

The operation occupied from 12.30 until 2 A.M. The temperature was then normal, and remained so with the exception of a rise to 100° on the two evenings following. This was no more than might have been caused by another bullet which broke the patient's right arm.

The bowels were kept quiet with opium for six days, and then relieved with an enema. He vomited twice on the first day, but no stitches were ruptured, as the dressing had been tightly applied.

The dressing was removed on the fifth day, and the wound found to be entirely closed, except at the point of drainage and at two points between stitches where the skin had not been neatly approximated, these were granulating.

The wound was dressed again on the tenth day, when the drain was removed; and again on the fourteenth day when the sutures were removed. He was directed to wear a supporter for some weeks to lessen the danger of ventral hernia.

Aside from feeling it a duty to report cases, concerning which statistics are important, I think this case is of interest on account of its rarity—*i. e.*, a large size bullet passing through the peritoneal cavity and damaging nothing but its walls.

Dr. Morris's idea of its hugging the anterior wall from its entrance, and passing around and burying itself in the muscles of the left side (the man who did the shooting standing to the right and behind him) seems to me the only explanation; in view of the fact that he had eaten nothing for eight hours, the bowels must have been nearly, if not quite, empty, which condition, no doubt, was favorable to the harmless passage of the ball.

Still further interest attaches from the prompt arrest of the peritonitis through washing out the cavity.

Would the absence of shock indicate that none of the viscera was injured? Or was there absence of shock because the patient was heavily intoxicated when he received the injury?

DEODORIZED IODOFORM.

BY LOUIS GENOIS,
OF PHILADELPHIA.

UNDETERRED by the numerous methods already recommended for disguising the odor of iodoform, the writer ventures to suggest one more, believing it to possess in a marked degree the essential features aimed at—that is, complete concealment of the odor, and permanency.

The dissatisfaction with the disagreeable and persistent odor of the drug has become so pronounced that many physicians have discarded its use entirely, and have resorted to other bodies of an allied nature, in the hope that some of them would prove as efficient and reliable as iodoform.

The principal substitute employed, and that on

which most dependence has been placed, is iodoform, or tetraiodide of pyrrol; a compound which, from the large amount of iodine it contains, was thought to be equal, if not superior, to iodoform in antiseptic and alterative properties; from indications, however, which the writer considers conclusive, there is a well defined preference for iodoform among medical men, and if there could be devised some means of overcoming the objectionable odor, there is no doubt that the drug would reassume its incontestable supremacy.

Attempts to deodorize iodoform may be said to have been coeval with its introduction into medical practice, and perhaps it would be easier to enumerate the substances that have not been used for the purpose than those that have been recommended, so numerous and various are the latter. The essential oils, tannin (which decomposes the drug), coumarin, balsam of Peru (which abstracts iodine from its combination), ground coffee, charcoal, the alkaline carbonates, benzoic acid, etc., have each in turn been tried, and found wanting, either in permanency, or in causing a chemical reaction and changing the character of the drug.

Probably the best admixture that has come under the writer's notice is one of menthol and oil of lavender, a formula for which was published in a French journal, and was pointed out to him by Dr. S. W. Gross; but, as in other cases, in a week's time the added substances begin to volatilize, and the iodoform odor reappears, increasing in intensity until it is itself again.

The deodorant of which the writer advocates the use is purified naphthaline, to which a trace of turmeric has been added; this mixture will mask the characteristic odor so effectually as to challenge detection by the sense of smell alone.

The quantity of deodorant required to disguise the odor of a given quantity of iodoform is comparatively small; after a number of experiments, it was found that nine per cent. of the mixed substances was ample for the purpose. The following formulæ are suggested:

Deodorized Iodoform.

Purified naphthaline . . .	7¼ grs.
Powdered turmeric . . .	1½ grs.
Iodoform . . .	91 grs.
Rub together until thoroughly mixed.	

Ointment Iodoform.

Deodorized iodoform (as above) .	3ij.
Oil of almond . . .	3ss.
Lanoline . . .	3vss. M.

Lanoline is suggested because possessing a strong odor of its own which assists in concealing the iodoform odor, and besides it is readily absorbed by the skin.

The deodorized powder can be used instead of the

simple drug in the making of suppositories, crayons, plasters, etc., and other preparations for external application. For making an ethereal solution the turmeric should be left out, as it is not soluble in ether.

1201 CHESTNUT STREET.

MEDICAL PROGRESS.

Creolin in Cystitis.—The *Lancet* of January 14, 1888, reports that in a very persistent case of cystitis occurring in a middle-aged woman, where the pain was so constant that the patient was generally obliged to keep her bed, and where the urine was offensive, brownish, and thick, depositing a third of its volume of pus, blood, and phosphates, after a large number of different kinds of treatment had been employed by various medical men without much result, the best application appearing to be injections of corrosive sublimate in very weak solutions, Dr. Jefsner, of Stolp, washed out the bladder with a half per cent. solution of creolin. This caused a burning sensation for a few minutes, after which it passed off. The next day the patient felt and looked quite a different woman, the pain in the bladder had been less than for a long period previously, and the urine, when drawn with the catheter, was scarcely offensive at all, and appeared quite clear, depositing after a time only a small quantity of phosphates without any admixture of pus or blood-corpuscles. The washing out of the bladder was repeated daily, and by this means the improvement was maintained. It would appear, therefore, that in creolin we have a deodorizer and a hæmostatic, as well as a means of improving the character of the secretion from the surface of mucous membranes.

The Dangers and Uselessness of Very Strong Galvanic Currents.—At a recent meeting of the Paris Academy of Medicine, DANION stated that from his study of the effects of powerful galvanic currents, in experiments upon animals, he finds that they frequently produce severe congestions followed by inflammation of internal organs.

The electrolytic effects of moderate currents in gynecological practice illustrate the advantages of these currents. On the contrary, the use of very strong currents is equally harmful.

Very strong currents are absolutely useless.

Voltaic, non-caustic currents of great strength are apparently harmless, but further study is needed to confirm this opinion.—*L'Union Médicale*, January 19, 1888.

Methylal as a Local Anæsthetic.—LANGGAARD, in the *Therapeutische Monatshefte* for January, 1888, reports the following formula:

Methylal.	15 parts.
Ol. amygdal. dulc.	85 "

Also,

Methylal.	3 2½.
Spiritus	3 27¼.
Ol. lavandulæ	gtt. 75.

to be used as liniments.

Methylal.	m. 75.
Adipis	3 7½.
Ceræ	gr. 45.

to form an ointment.

For application, upon cotton, to a hollow tooth.

Tinct. fol. coca.	3 2.
Methylal.	m. 30.

may be used.

The Relations of the Peritoneum to the Abdominal Wall, in Cystotomy.—STRONG, of Chicago, in the *Annals of Surgery* for January, 1888, reports the results of a number of experiments upon cadavers, as follows:

1. In the normal condition, the bladder and rectum being empty, the apex of the bladder and peritoneal reflection are a little above the arch of the pubes.

2. In moderate distention of the bladder the anterior peritoneal reflection is below the apex; with the same degree of distention and the bladder pressed against the abdominal wall, the peritoneum ascends higher.

3. Suprapubic cystotomy can be most easily and safely performed when the bladder is lifted from the pelvic floor and moderately distended against the abdominal wall.

4. Distention of the rectum alone elevates the base of the empty bladder, but does not raise materially the vesico-abdominal fold of peritoneum.

5. Distention of the bladder alone, in thin subjects particularly, requires relatively a greater amount of fluid to elevate the peritoneal reflection. The bladder is not crowded against the abdominal wall, but rather falls away from it.

6. Moderate distention of both rectum and bladder meets the indication the best; from ten to twelve ounces in the rectal bag and eight to ten in the bladder are generally enough, and seem to be a safe quantity to use.

7. Dilatation of the rectum first and the bladder afterward lifts the peritoneal reflection the highest.

8. The object of the rectal bag is to elevate the distended bladder and press it against the abdominal wall and so crowd up the peritoneum.

9. To meet the indication the gut should be dilated from the anus to near the promontory of the sacrum.

10. The rectal bag should be sausage-shaped, of rather thin rubber, rather than pyriform and thick, for the thinness enables it to follow up the gut, and the shape makes uniform pressure throughout the entire length.

11. In a very fleshy subject, with a flabby or pendulous belly, the bladder is relatively freely movable. In such a case it will easily rise out of the pelvis against the abdominal wall, when alone distended with a moderate quantity of water; the rectal bag may then be safely dispensed with.

12. Air, injected into the bladder of a subject, lifts the bladder and its peritoneal reflection out of the pelvis better than water.

13. In one case the gut was ruptured opposite the promontory of the sacrum with twenty-three ounces in the rectal bag, in no case was the bladder ruptured.

14. In the cases reported an average of fourteen ounces in the rectal bag and twelve in the bladder elevated the anterior peritoneal reflection an average of one and a half inches above the crest of the pubes; the apex of the bladder was one inch higher.

For Cancer of the Uterus.—The *Medical Press and Circular* gives the following formula for a suppository for use in uterine cancer:

Iodoform	10 grains.
Camphor	4 "
Extract of belladonna	1 grain.
Cacao butter	q. s.

For one suppository, to be placed in the vagina each night.

Cocaine in Operations upon the Eye.—In the *Archives of Ophthalmology* for December, 1887, DR. MILLIKIN writes as follows, regarding the use of cocaine:

A few words with reference to the use of cocaine in this connection may not be out of place. With a free use of a four per cent. solution the pain in this operation was not great, but still it was very perceptible. The great advantage from cocaine seems to be the obtunding of the superficial sensibilities of the cornea and conjunctiva; and this is the most important consideration, for operations on the deeper structures of the eyes are not, as a rule, particularly painful. A strabismus operation, even in a child, is borne without great complaint, while touching the cornea or seizing the conjunctiva, without the cocaine, with fixation forceps, is exquisitely painful. Recently I did an enucleation, in the case of a man with marked lung disease, with three or four instillations of a four per cent. solution of cocaine, and the pain complained of was only moderate, yet I have no idea that the cocaine affected in one way or the other the sensibility of the deeper structures cut through. Undoubtedly deep injections of the solution would further obtund the sensibilities, but I have not found this necessary, as I am able to do such operations as strabotomy, advancing the recti muscles, etc., without producing pronounced pain.

Rapid Reduction of Dislocation of the Shoulder.—ABRIL is quoted by the *London Medical Record* of December 15, 1887, as having employed the following method, with success:

In all the methods ordinarily employed for the reduction of dislocations downward of the humerus, the trunk is fixed and the head of the humerus is raised into the glenoid cavity. Dr. Abril inverts this proceeding; his plan is to fix the humerus and to make the glenoid cavity descend on to the head of the humerus. He claims for his method that it is most simple, easily, and quickly done, that chloroform is not necessary to obtain muscular relaxation, that the pain is trifling, and that no assistants are required. He makes the patient stand with a crutch in his axilla; he then holds the hand of the affected side, making slight traction downward; the patient is now to let himself down as if he were going to fall on his knees, and as he falls the head of the humerus glides into its normal position, and the patient is surprised at finding himself cured.

Strychnia as a Hypnotic.—T. LAUDER BRUNTON, in the *Practitioner* for January, 1888, writes that in treating some cases of persons engaged in literary work who were suffering from sleeplessness and yet were obliged to have their brains perfectly clear during the day, it occurred to him that if he could convert the condition of over-tiredness into a condition of simple tiredness, the patient would naturally fall sound asleep without the use of any hyp-

notic. One can sometimes do this to a certain extent by giving some warm beef-tea or a teaspoonful of Valentine's meat juice in water either hot or cold, or by giving a little alcoholic stimulant, such as whiskey and water or brandy and water. It is probable that these substances have a double action, tending to dilate the vessels of the stomach and withdrawing blood from the head, as well as tending to exert what we may vaguely term a stimulant action on the nervous tissues themselves, without understanding what the exact nature of this stimulant action is. It occurred to him that as strychnine is one of the most powerful stimulants, if not the most powerful nervous stimulant that we possess, a small dose of it might have the effect of bringing the depressed nervous system up from the condition of over-fatigue to that of simple fatigue, and thus induce sleep. He accordingly tried it, and was much pleased with the result. It acted exactly in the manner that he expected, and induced comfortable healthy sleep without any disagreeable effects next day. The way in which he has used it has generally been either in the form of the tincture of nux vomica in doses of 5 to 10 minims or in the form of Schieffelin's granules, containing $\frac{1}{100}$ of a grain of sulphate of strychnine in each. One, two, or more of these granules were given at bedtime, and the dose was repeated if the patient happened to awake within one or two hours afterward.

The Odor of Iodoform.—CHARTERIS, Professor of Therapeutics at Glasgow, reports the results of his studies in disguising the odor of iodoform as follows, in the *British Medical Journal* of January 21, 1888:

From a series of comparative trials I beg to offer the following prescription as securing the end in view:

R.—Iodoform	grs. 60.
Ol. amygdalæ	3ijss.
Ol. theobrom.	3ijss.
Ol. myristicæ	℥ xx.
Moschi	gr. iij.
Coumarin.	gr. vj.
Sp. tenuior	3j.

The essential ingredient here is musk. To some people, however, the smell of musk is also disagreeable, and the other substances are added with the view of leaving a pleasant odor, neither of musk nor iodoform. If the iodoform is desired for dusting purposes, as in soft chancres or burns, the combination of one grain of musk to ten or fifteen grains of iodoform is satisfactory. These prescriptions have been made up by leading pharmacists here, and they bear willing testimony to the facts mentioned.

Poisoning by Hyoscyamin.—DR. JOHNSON, of Toronto, after reporting the case of a patient in whom one-twelfth grain of hyoscyamin produced serious effects, concludes:

1. That poisoning by hyoscyamin resembles, and may be easily mistaken for, poisoning by atropine.
2. That hyoscyamin is identical with "light atropine," "light daturine," and "duboisine."
3. That there are various preparations known as "hyoscyamin."
4. That these preparations differ exceedingly in their strength.
5. That there is a pure alkaloid hyoscyamin which should not be given, at first, in more than $\frac{1}{100}$ of a grain doses, and

6. That there is a resinoid hyoscyamin, commonly dispensed as "hyoscyamin," which may be given in doses of one-quarter to one grain.

7. That it is advisable for the safety of our patients, when prescribing hyoscyamin, to name the manufacturer whose drug we wish used.—*Canadian Practitioner*, January, 1888.

Quebracho in Dyspnoea.—DR. ELLIS reports, in the *Therapeutic Gazette* of January 16, 1888, that he has found the following formula useful:

R.—Syr. prun. virg.,
Syr. tolutani,
Ext. quebrach. fld. āā ʒj.
Acid. hydrocyanic. dil. gtt. xxiv.
Morphiæ sulph. gr. jss.—M.
Ft. sol.

Sig.—Take a dessertspoonful as often as necessary to afford relief.

After the first two doses, each containing two-thirds of a drachm of the quebracho, the difficulty of breathing was very considerably reduced, the respirations sinking from 46 to 24 per minute in three hours, and by continuing it according to direction the patient was enabled to enjoy a longer period of comparative ease than she had experienced for months.

Stimulants and Narcotics in Skin Diseases.—In the *Dietetic Gazette* for January, 1888, FOX, of New York, writes as follows:

One very important point to be considered in preparing a diet list for patients with skin disease is the effect of alcohol, tea, coffee, and tobacco in retarding tissue-metamorphosis. To improve the nutrition of the skin, it is desirable that the processes of waste and repair be carried on without cessation. When alcohol or other stimulants are consumed to any extent this desirable change or reconstruction of tissue is arrested, and the various organs of the body are impaired in the performance of their functions. The effect of beer upon an eczema is as marked as it is upon a gonorrhœa, and I have sometimes thought it better for a patient to drink a whole bottle of whiskey than a single glass of malt liquor. The effect of tobacco and coffee is frequently seen in cases of pruritus, and in private practice I have fallen into the habit of forbidding all stimulants on the ground that they do no good and may do harm. In charity practice it has often struck me as the height of folly to prescribe medicine for patients who are living largely on tea and beer, and whose symptoms would speedily disappear under a judicious regulation of diet. Indeed, it is difficult to appreciate what dietetics will do in the treatment of cutaneous and other diseases unless we move, for the time being, a suspension of the Pharmacopœia.

Sulphibenzozoate of Sodium.—This new antiseptic is described by HECKEL, in *Comptes Rendus CV.*, p. 896, as prepared by dissolving sodium benzoate in a strong solution of sodium sulphite. It is said to be very soluble in water, and to be absolutely innocuous to human beings, even if taken in large doses. It has been tried in the Hospital of Saint Mandrier, and it is reported as the result of the clinical experiments conducted there, that a solution made by dissolving a drachm in a quart of

water, is superior to carbolic acid as an application to wounds, and that it may be compared in value to the salts of mercury without having their poisonous properties, or to iodoform without its disagreeable odor. The physical and chemical properties of the compound have not yet been published.—*Provincial Medical Journal*, January 2, 1888.

Guaiac in Scarlatina.—DR. ARMSTRONG, of Detroit, relates his experience in the use of guaiac as follows:

In the following sixteen cases since treated with this remedy, including four of a very severe type, it has not disappointed me in a single instance, though I did not always use it to the exclusion of other medicines when they were indicated. Where constipation and scanty secretion of urine occur, I know nothing better than the pulv. jalapæ co., given in large enough doses to produce free evacuation of the bowels. When the headache is intense and the temperature is high, in the commencement of the attack, I combine with the guaiac, aconite in small doses, often repeated. And when the guaiac is prescribed alone the results are better when given frequently, in small doses, being due, perhaps, to its local effect. Another point of no small importance, as the disease is one occurring mostly in children, is its agreeable taste, when combined with simple syrup, or elixir. The fluid extract is the only preparation of the drug I have used, although the tincture, or the ammoniated tincture, might be equally effective. The formula most often prescribed has been:

R.—Fld. ext. guaiac ʒ ij.
Tr. aconit. m. vj.
Syrup q. s. ad. ʒ ij.—M.

Sig.—One-half a teaspoonful every two hours, for a child one to two years old.

This dose might be increased or the medicine given oftener, though I have not found it necessary to give it in large doses. It is taken without the addition of any water, as a rule, so as to get its best local effect.—*Medical Age*, December 26, 1887.

Strophanthus in Russia.—DR. A. KAZEM-BEK, of Kazan (*Vratch*, Nos. 40 and 41, 1887), relates seven severe cases treated by tincture of strophanthus (one part of the seeds to ten of alcohol), five drops being given every three hours, four times during the first day, and ten drops three times daily subsequently. The cases included chronic myocarditis, with consecutive cardiac dilatation, with calcareous deposits on the aortic valves and walls; mitral stenosis, with regurgitations (two cases), alone or complicated with parenchymatous nephritis; bronchial asthma, with pulmonary emphysema (two cases); aortic stenosis, with regurgitation; and cardiac neurosis in a hysteropileptic woman. In only one case, that of a woman, aged thirty-seven, with rheumatic mitral disease and chronic nephritis, did the drug partly fail, and, even in that case, it proved beyond all comparison better than succinate of caffeine and sodium, or digitalis with valerian, or grindelia robusta, or convallaria, with which the lady had been successively treated before. In the remaining six cases, strophanthus produced a striking improvement, usually in a very short space of time; dyspnoea ceased; the paroxysms of bronchial or cardiac asthma, as well as œdema, gradually disappeared; the

heart's action became much less frequent and more regular, and the pulse fuller and stronger; while the daily amount of urine considerably increased. When taking the medicine, the patients slept soundly and quietly for many successive hours. This circumstance is attributed by Dr. Kazem-Bek partly to an improvement in their general state, but partly to a direct sedative action of the drug on the brain, since a drowsy condition was observed by him also in dogs after an intravenous injection of the tincture. The experiments on animals (frogs, turtles, and dogs) were undertaken by the writer mainly with the object of elucidating the question whether strophanthus acts solely on the muscular tissue or not. He has come to the conclusion that the drug acts, not only on the cardiac muscle itself, but also on the cardiac ganglia and peripheral endings of the vagi. This conclusion is based on the following facts: 1. That atropine gives rise to a considerable acceleration of the heart's contractions which have been previously slowed by strophanthus; and 2, that strophanthus does not slow the heart's beats which have been previously accelerated by atropine. Dr. Kazem-Bek has also found that strophanthus increases the blood-pressure, but this increase seems to be independent of the heart's contractions; at least the arterial tension continues to rise, while the number of the beats remains unchanged.—*British Medical Journal*, January 21, 1888.

Lanolin a Prophylactic Against Bacteria.—GOTTSTEIN, of Berlin, after numerous experiments, has found that lanolin is not decomposed by the agencies commonly destroying fats, and that the integument, when it has been thoroughly applied, is much less likely to admit poisonous germs and materials than otherwise.—*Therapeutische Monatshefte*, January, 1888.

Pulmonary Tuberculosis in a Cat.—FILLEAU and LÉON PETIT, in the *Journal de Médecine de Paris* of January 1, 1888, report the case of a cat, frequenting their laboratory and clinic room, which devoured eagerly the sputa from phthisical patients.

Well-marked symptoms of pulmonary tuberculosis developed, and the animal seemed losing ground rapidly. On the intervention of pregnancy the advance of the tubercular disease was checked; pregnancy went on to term, and a litter of well-formed, apparently healthy kittens was born. The mother continued in comfortable health until she was bitten by a rabid dog, several months after confinement, when she was immediately killed.

Caseous tubercular matter and bacilli were found in the lungs; tuberculosis was latent; the other organs were healthy.

Urethan.—This hypnotic, introduced by SCHMIEDEBERG, has been found useful in insomnia from cerebral hyperactivity; in the adynamic insomnia of neurasthenia; in heart diseases; in phthisis. It does not control pain; it is unreliable in the excitability of alcoholism. It may be used in mental diseases, where mania is not too violent; it speedily loses its effect through the patient becoming accustomed to it.

In full doses it checks convulsions caused by strychnine.

Its dosage is from 15 to 30 grains; hypodermatically from $7\frac{1}{2}$ to 15 grains.

It may be prescribed as follows:

Urethan	31½.
Aq. destill.	315.—M.

Sig.—Dose, 1 to 2 teaspoonfuls.

HUCHARD prescribes, for children:

Urethan	31.
Aq. destill.	310.
Syr. aurant. cort.	35.—M.

Sig.—Teaspoonful at half hour or hourly intervals, until sleep is produced,

And

Urethan	gr. 3.
Aq. flor. aurant.	310.
Syr. simpl.	35.—M.

Sig.—A child's teaspoonful hourly.

—*Deutsche medicinische Wochenschrift*, January 5, 1888.

Hæmatoma of the Larynx.—TER MATEN, in *Wiekablt voor Geneesk*, 1887, i. p. 679, reports the case of a teacher who had suffered from hoarseness for five years, which he referred to a severe cold.

Laryngoscopic examination showed a bluish-red tumor on the left vocal cord. When grasped by forceps it collapsed, ejecting a quantity of blood. The tissue which had covered it was easily removed.

Erysipelas of the Auricles following Piercing of the Lobes.—

DR. THORNER reported at a meeting of the Cincinnati Medical Society three cases of erysipelas of the auricles, originating from the habit of piercing the lobes. One occurred in a child, whilst the other two were those of adults. The erysipelas spread in all cases over face and scalp.—*Cincinnati Lancet-Clinic*, Feb. 4, 1888.

Spontaneous Detachment of a Laryngeal Polypus.—At a meeting of the Berlin Medical Society, December 21st, PROF. FRÄNKEL read a very interesting communication from Sanitätsrath, Dr. von Swidersky, of Posen, on a case of extrusion of a polypus of the larynx during the act of coughing. Dr. von Swidersky had known the patient, a cavalry officer, since 1848. In 1862 he began to be affected with hoarseness and dyspnoea, and Dr. Valentiner then diagnosed laryngeal polypus. Other authorities in Berlin and Tübingen were consulted; one of these was of opinion that villous cancer was present, because the growth (plainly visible on the posterior third of the left vocal cord, and attached to its inferior aspect) bled profusely when touched. All who were consulted advised tracheotomy, but this the patient would never hear of. The dyspnoeic attacks occurred from time to time, often accompanied by severe hemorrhage, and the hoarseness increased. In 1870, von Swidersky, tracheotomy being still refused, attempted local treatment. The tumor was first touched with caustic potash (well solidified), and afterward daily with a concentrated solution of ergotin. On May 12, 1870, the patient was in imminent danger of suffocation, but next day his medical attendant found him in good voice and spirits, enjoying a cigarette with his coffee. He triumphantly pointed to a substance which he had coughed up, and which he had placed in water. Microscopical examination showed that it was a fibroid polypus. The patient has remained well since then, and

there is only a slight inclination to laryngeal catarrh. V. Swidersky attributed the cure to the ergotin treatment. Professor Fränkel had never in his large experience met with a similar case, and was of opinion that practically we should never trust to such a lucky termination, quite as uncertain as the chief prize in a lottery. But he had seen a case in which a polypus had very gradually retrogressed. Dr. Böcker had independently diagnosed the existence of a polypus in this case, so that there was no doubt about it. Hensch thought that it might have been coughed up without the patient's knowledge, and argued from analogous rectal polypi in children, but Fränkel persisted in his opinion that the improvement in his case had been but gradual, and promised further details in a paper on the subject about to appear.—*British Medical Journal*, January 21, 1888.

Iodoform in Antiseptic Gynecology.—POZZI has used the following fluid for impregnating gauze:

Iodoform	312½.
Glycerin.	325.
Spirit. vini.	321½.

Iodoform suppositories may be prepared with

Iodoform pulv.	35.
Gummi arab.	
Glycerin.	
Amyl.	ää gr. 30.

—*Le Progrès Médical*, January 7, 1888.

Fatal After-effects of Chloroform.—DR. UNGAR has recently published in the *Vierteljahrsschrift für gerichtliche Medicin* an account of some researches which he has made in order to determine precisely the effects of chloroform on the tissues. He kept a large number of rabbits and dogs under chloroform for many hours, with intervals of suspension of the anæsthesia. After death, marked changes were discovered in the tissues. The muscular tissue of the heart was very fatty, and numerous points of fatty degeneration were found in the endocardium. Similar fatty changes were found in the epithelium of the larynx, trachea, bronchi, pulmonary alveoli, and gastro-intestinal tract. The epithelium of the convoluted tubules of the kidneys was either full of fatty granules or was in process of breaking down. The liver cells and the epithelium of the smaller biliary ducts were affected in a similar manner. Fatty changes were also detected in the striated fibres of the diaphragm, and, though less marked, in the rectus abdominis and the extensors of the thigh. In nearly every case these appearances were most marked the longer the animal had been kept under chloroform. Dr. Ungar observes that the animals were healthy, whilst in the case of patients fatty changes due to illness, cachexia, alcoholism, etc., often exist before the narcotic is given. In such a case the chloroform may do much harm even when the patient recovers. Some of the animals died more than twenty-four hours after coming to from the final dose of chloroform. Dr. Ungar is therefore induced to believe that death shortly after operations may be more often due to the narcotic than is generally supposed. His researches do not confirm Nothnagel's theory that the fatal action of chloroform consists in the disintegration of the colored corpuscles of the blood. He believes that the anæsthetic acts directly on the chlorine and chlorine salts diffused through the tissues. The successful administration of

chloroform during labor, to which Dr. Ungar refers, appears to prove that the anæsthetic acts less seriously in our species than in animals, yet his paper contains important suggestions which should not be overlooked.—*British Medical Journal*, January 14, 1888.

Formulæ for Eczema.—BROCCO, in the *Revue Gén. de Clin. et de Thér.* of January 12, 1888, has collected the following formulæ for the treatment of eczema, from various authors:

Cold cream	3 7½.
Glycerine	3 2.
Oxide of zinc	gr. 30.
Tinct. of benzoin	gtt. 15.

Also,

Tannin	gr. 30.
Calomel	gr. 15.
Glycerate of starch	3 7½.

Salicylic acid may be combined as follows:

Acid. salicylic.	gr. 8 to 30.
Zinc. oxid. pulv.	ää 3 6.
Amyl. pulv.	3 7½ to 10.
Lanolin.	3 5 to 2½.
Vaselin.	

Boric acid ointment:

Acid. boric. pulv.	gr. 30 to 90.
Vaselin.	3 7½.
Balsam Peruv.	℥ 8.

Mix; add

Acid. boric. pulv.	gr. 75.
Adipis or vaselin.	3 2½.
Lanolin	3 8¼.

The Treatment of Warts by Arsenic.—PULLIN describes among others, the following case illustrating the value of arsenic in treating warts:

Minnie P., æt. four, I happened to see while attending her mother in a confinement, and was struck by the peculiar appearance of one of her little fingers, the ungual phalanx of which was apparently the seat of some abnormal growth, being irregular and bulbous; on closer examination, however, it proved to be nothing more than a crop of warts, which almost entirely covered the nail. On the same hand there were many others, and likewise on the opposite hand. After taking liq. arsenicalis, ℥j, for ten days, most of the warts had fallen off, and those which still remained I easily removed with my finger and without the slightest pain to the child. Several other cases, in which I have treated these unsightly and troublesome growths in the same way, I could record, but in every instance the cure has been complete and rapid; and I think the above case in itself alone proves the value of arsenic for treating warts; for it is certainly equally rapid in action, and moreover has the great advantage over the caustics in being painless, which is of so much importance in treating young children.

Creasote Hypodermatically in Phthisis.—ROSENBUSCH, in *Wiener med. Presse*, No. 3, 1888, reports good results from vegetable creasote in almond oil, three per cent., injected beneath the skin in the second intercostal space, or the supraspinatus fossæ. He intermitted the treatment in pauses of two or three days.

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SUDDEN DEATH IN TYPHOID FEVER.

MONNERET has said, with less sacrifice of the truth than is usual in epigrams, that "typhoid fever includes all pathology." It may be also said that its terminations illustrate every manner of dying. In the twelve or fifteen cases that prove fatal in every hundred of the disease, death comes in various forms—slowly, by gradual asphyxia or progressive adynamia; rapidly, by intestinal perforation, acute peritonitis, profuse hemorrhages, or nervous accidents; suddenly, by processes not yet fully understood. This last mode of termination is not the less important because of its comparative infrequency. It is a calamity neither to be foreseen nor prevented, and must, therefore, interest us practically as a misfortune possible in any case; theoretically, as a problem in the pathology of typhoid fever yet awaiting, nay, now urgently demanding solution. To its consideration DEWÈVRE has recently devoted an elaborate and important article in the *Archives Générales de Médecine* for October and December, 1887.

Cases of sudden death in typhoid fever from obscure causes were recorded by Louis, Chomel, Andral, and others in the second quarter of the century; later, Virchow, Zenker, and Wunderlich published many observations concerning this accident, but it remained for Dieulafoy, in 1867, to ascribe to the subject its due importance, and to furnish an hypothesis as to its cause. Since then,

Griesinger, Hayem, Laveran, Longuet, Jaccoud, Tripier and a host of others have published cases. Dewèvre estimates the proportion of sudden deaths in typhoid at four per cent. of all fatal cases. This estimate, based upon French military statistics, is certainly higher than an extensive knowledge of the disease, as seen in hospital and private practice in the United States, would warrant us in making. It is most common about the age of twenty-five, rare in infancy and after forty. There appears to be no constant relation between the debility and constitutional feebleness of the patient and this accident, which very frequently befalls young and vigorous subjects. It is of more frequent occurrence in military than in civil life. As regards the period in the evolution of the attack in which this accident is most likely to occur, it is toward the close of the illness and especially in the third week. It is of more frequent occurrence in cases of moderate severity than in those which are on the one hand grave, or on the other, mild. Dewèvre has succeeded in collecting only four cases of sudden death in typhoid relapse. Like other peculiarities of the disease, it is met with in varying frequency in different epidemics.

The administration of carbolic acid, sodium salicylate, or quinine in large doses has been regarded as predisposing to sudden death. The method of Brand has especially been accused of determining to this unfortunate issue by the violence of the perturbations which it excites in the organism. It is certainly true that sudden death has often occurred at the moment of some movement on the part of the patient, or of some unusual emotion. On the other hand, many of the cases have occurred in sleep. There is nothing in the history of the cases that will enable one to foresee this accident. Dyspnoea has been observed; syncope and convulsions may occur. Even at the moment of death, the symptoms are without significant characteristics. Very often the patient simply grows suddenly pale, sinks back, and dies before the attendants can render assistance. When symptoms occur they are of nervous origin, intense dyspnoea, angina, spasmodic cough, convulsions, sometimes limited to the face and upper extremities, sometimes general.

In a large proportion of the cases the necropsy fails to reveal lesions adequate to explain the sudden death. There are the characteristic lesions of typhoid; nothing more. In other instances the anatomical changes are significant. We find granular

and fatty degeneration of the heart, proliferative endarteritis of the branches of the coronary arteries, pericardial effusion, in many cases doubtless due to the death agony, endocarditis, heart-clot, embolism of the pulmonary artery. The lungs are often intensely congested, and there may have been bronchitis or pneumonia. The condition of the brain is by no means constant. There may be intense congestion, or, on the other hand, in many cases its substance has presented an extraordinary paleness. Alterations of the kidneys are present in by far the greater number of cases.

Dewèvre reviews the various theories of the mechanism of sudden death in typhoid fever with great acumen. The theory of pulmonary embolism, that of thrombosis of the heart, that of degeneration of the heart muscles, that of obliterative endarteritis and cardiac ischæmia are carefully examined, and each in turn rejected as inadequate. So with the ingenious theory of intestinal reflex proposed by Dieulafoy, and that curious theory of stomachal reflex of Tambareau, and that of cerebral anæmia, and the theory of uræmia and that of overwhelming typhoid intoxication. Each may serve, according to the views of its advocates, best to explain cases or even groups of cases, but no one of them is generally applicable.

Sudden death, such as is here described, is a special accident of typhoid fever closely associated with the anatomical changes peculiar to that disease. It comes only in one of three ways: the patient succumbs to one of the common causes of sudden death, as hemorrhage, embolism, and the like; he dies of uræmia due to the nephritis of typhoid fever; or life is destroyed by special localization of the infecting principle upon the pneumogastriæ.

URINE FEVER.

MR. REGINALD HARRISON, of Liverpool, devotes most of the first Lettsomian lecture, which is published in the *British Medical Journal* of January 7, 1888, to the consideration of urine fever. We are all familiar with the phenomena of rigors and fever which sometimes follow surgical procedures upon the male urethra, and which are usually spoken of as urethral fever. Harrison considers this term to be inappropriate, since the febrile manifestations are not dependent upon any peculiarities of the urinary passages, but upon the contact of urine with a wounded surface, where certain poisonous products are generated, and by their absorption produce the

well known symptoms. As these symptoms are entirely due to the contact of the urine, he denominates them, urine fever. His argument is very suggestive, and carries much weight with it.

The anatomical structure of the urethra is such that it is water-tight, the urine passes over it, but does not come in contact with an absorbent surface; when, however, a catheter or other instrument is introduced the epithelium is liable to be detached, and then rigors and fever frequently supervene; of course, the danger increases with the amount of injury to the tissues, hence, prolonged instrumentation, internal urethrotomy, and other serious procedures are not infrequently followed by urethral or urine fever. That this fever is due to the absorption of toxic substances from the urine is proven by the fact that, if the urine is withdrawn by suprapubic aspiration, and whilst the bladder is empty, the same manipulations are performed, no fever will result, because urine does not come in contact with the raw surfaces.

Noticing the infrequency of these phenomena after lithotomy and incisions into the bladder, where the urine flowed freely over the wound but was not retained in it, Harrison arrived at the conclusion that fresh urine is incapable of originating this fever, and that a pocket or sac into which urine can be collected and undergo decomposition, is essential. In order to verify this, he performed first internal urethrotomy and then perineal section on the same person in several cases, and introduced a drainage tube into the bladder, and in none of them was any urine fever produced.

Again, there was immunity to a great extent in those who were placed under the influence of large doses of quinine, the explanation being that it acted as an internal antiseptic and to a large extent sterilized the urine and rendered it innocuous. This result also followed the injection of sublimate or boric acid solutions into the bladder. He considers the poisonous product to be a ptomaine, which develops as the result of heat and moisture.

The following summary represents his views upon the etiology of urine fever. 1. That the presence of urine in relation with a recent wound is necessary for the development of urine fever. 2. That the mere contact of urine with a wound is not sufficient for its production. 3. That the retention of fresh urine within the area of a recent wound is almost invariably followed by its development in a greater or less degree. 4. That where urine is placed under

such circumstances as have been last mentioned, the liability to the development of urine fever is greatly diminished when it is sterilized by local or general means. 5. That the retention of fresh urine, blood, and the débris of damaged tissue in the confines of a recent wound for a certain time at a temperature of somewhere about 100° F., could hardly be possible without chemical changes taking place in the constituents referred to. 6. That there is a common origin for urine fever is rendered probable by the uniformity of the symptoms attending it, which, though different in degree, are identical, whether following a surgical operation or an accidental wound.

ANTIPYRIN AS A HÆMOSTATIC.

ALTHOUGH this youthful drug has been already recommended by various practitioners for almost every disease to which human flesh is heir, but lately still another application has been found for it. BYVALKEVITSCH reports in *Vratch* his experiences with antipyrin in stopping hemorrhage, and states that doses of twenty to eighty grains arrested hemorrhage during phthisis, even when ergot had failed, and he lauds it considerably in consequence.

HENOCQUE, at a recent meeting of the Société de Biologie, called attention to this use of the drug (*Gazette Hebdomadaire*, January 13, 1888), and to the fact that he proposed this remedy in 1884; that Arduin and Huchard had reached similar conclusions concerning it; and that Casati, in Italy, Goltz, in Switzerland, and several others have confirmed this belief.

The difference between the methods of Henocque and Byvalkevitsch consists in the fact that Henocque uses a powder or an ointment of antipyrin, while Byvalkevitsch gave the drug internally. How it is possible for a drug which affects the circulatory system as slightly as does antipyrin, to arrest hemorrhage when taken internally we fail to see, and unless the method of Henocque retards hemorrhage mechanically it is useless; even if this be the case, it is unnecessary, in view of more easily used and more valuable methods.

At the annual meeting of the New York State Medical Society, held at Albany last week, the following were elected officers for the ensuing year:

President—Dr. S. B. Ward, of Albany.

Vice-President—Dr. A. Walter Suiter, of Herkimer.

Treasurer—Dr. C. H. Porter, of Albany.

Secretary—Dr. Wm. Manlius Smith, of Syracuse.

Censors—Southern District: Drs. J. S. Warren, of New York; W. B. Chase, of Brooklyn; W. H. Helm, of Sing Sing. Eastern District: Drs. Joseph Lewi, of Albany; Thompson Burton, of Fultonville; L. McLean, of Troy. Middle District: Drs. Henry Flood, of Elmira; Robert Frazier, of Camden; I. N. Goff, of Cazenovia. For Syracuse University: Dr. I. N. Goff.

Committee of Arrangements—Drs. E. L. Partridge, of New York; F. C. Curtis, of Albany; and C. S. Merrill, of Albany.

THE New York Academy of Medicine has called the attention of the Board of Health to the practice of druggists to dispense filtered water for distilled water. An investigation was ordered, and samples of water were obtained from twenty-five prominent druggists, only one of which was distilled. The other samples were filtered Croton water, containing more or less organic impurity, sufficient in many instances to impair the efficiency of the prescribed solution. This substitution of filtered for distilled water is held to be an adulteration, which is punishable by a fine of fifty dollars for the first offence. The druggists have received warning that proceedings will be taken against those who in the future are found guilty of this form of substitution.

FOR the furtherance of female medical education in India, prize-funds have been inaugurated by the Countess of Dufferin and others. The first prize of the Dufferin-fund has been claimed for a student of the Grant Medical College at Bombay. Sir Walter de Souza has given the Calcutta Medical School a trust fund of two thousand rupees, additional to former donations, to aid the female students of medicine who repair to that school of the Indian metropolis.

THE municipal authorities of Paris have for some time been operating their system of "holiday colonies" for needy children, the results of which are beginning to be studied. The boys gained on an average three and a half pounds in weight and the girls four, and they continued to grow in weight for nearly a month after their return to the city at a still greater rate. The boys gained on an average three-quarters of an inch in chest-girth.

In the *British Medical Journal* of January 21st, appears a news item, with the caption "Protection

in the States," which recites that not long ago, by virtue of a law forbidding the importation of contract labor, a trained nurse who had been engaged in London to take charge of the nursery department of the Pennsylvania General Hospital, was forbidden to land in New York, and was sent back by the next steamer on the ground that the engagement was contrary to the law. The same fate is probably in store for Dr. Heneage Gibbes, late of Westminster Hospital, who accepted an engagement as Professor of Physiology at the University of Michigan. The item infers that an effort will be made by disappointed candidates and possible rivals of Dr. Gibbes to have the law made applicable to him if he should venture to land in this country for the purpose of accepting his professorship. The article closes by saying that a more absurd kind of legislation it would be difficult to imagine. The absurdity consists in the supposition that it was the intent of the law to reach any persons of the station and profession to which Dr. Gibbes belongs; and, as was announced in our last issue, Professor Gibbes has already reached Michigan and begun his instruction in the University of that State.

REVIEWS.

HANDBOOK ON DISEASES OF THE SKIN, WITH ESPECIAL REFERENCE TO DIAGNOSIS AND TREATMENT. By ROBERT LIVEING, A.M., M.D. Cantab., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, etc. Fifth edition, revised and enlarged. 12mo. pp. 451. London and New York: Longmans, Green, & Co., 1887.

THE author states that in this, the fifth edition of his handbook, many articles have been rewritten, and new ones have been introduced for the first time on erythema serpens, spurious erysipelas, malignant pustule, mycosis fungoides, colloid disease of the skin, rhinoscleroma, xeroderma maligna, scrofuloderma, Paget's disease, ulcers, leucoplakia, and lymphangioma. The reader will find, moreover, a suggestive chapter on nomenclature, together with remarks on classification.

After a careful perusal of the book we can recommend it as one of the most reliable works of its kind on the subject. It is by no means a compilation. It shows considerable originality, and is evidently the work of one who has seen a good deal of dermatology. The teaching on the whole is sound. There are some points, however, to which we must take exception, several of which may be briefly stated. Thus on page 29 the author states that he knows of "no one definite skin disease that can well be called ecthyma." In this country, especially in our large city hospitals and almshouses, a distinct idiopathic disease entitled to the term ecthyma is not infrequently met with. The existence of impetigo simplex is in like manner questioned. Dermatitis exfoliativa is made synonymous with pityriasis rubra, which we think a mistake, for there

exist unquestionably two diseases with clinical features quite different, and the two names are therefore useful.

We are pleased to note that the author comes out boldly in favor of the non-contagious (non-parasitic) theory of alopecia areata. He says: "I have witnessed no case in which any proof was shown that the disease was caught from another affected person." In conclusion we are compelled to say that the weakest part of the book is the treatment, which rarely receives sufficient attention, and in the consideration of some diseases is positively wanting. Thus, taking up several diseases at random we find but three lines devoted to keloid; but two lines to alopecia areata; while comedo (sometimes a difficult affection to treat successfully) and purpura are both dismissed without any allusion to treatment.

The book will prove, we think, more valuable to the practitioner than to the student, and among other reasons because it possesses considerably more of the author's own experience than is usually met with in similar works.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, February 2, 1888.

THE PRESIDENT, THOMAS M. DRYSDALE, M.D.,
IN THE CHAIR.

DR. WILLIAM GOODELL reported a

CASE OF SPLENECTOMY.

Mrs. R., aged forty years, had chills and fever in early life, but after her marriage, eighteen years ago, she removed to a healthy country town and had no return of the disease. She has had two children, the youngest seven years ago. At this labor she had a serious flooding and was confined to her bed for six months from excessive prostration. Since that time she has never been well, being weak and miserable. Her monthly periods were always free and generally painful. Last March she had a very severe attack of what her physicians called malarial fever, and her life was threatened by repeated attacks of hæmatemesis and hæmoptysis. A tumor was now discovered which was pronounced to be a uterine fibroid and she was sent to Dr. Goodell. He found the womb pushed low down and retroverted by a solid tumor, which started from the region of the right ovary and ran diagonally toward the splenic region. It entered the pelvis so low down as to cause bulging of the anterior wall of the vagina. The womb seemed to be independent of the tumor, for the former could be moved about freely with the sound, yet when the tumor was pushed upward it conveyed motion to the womb, drawing it also upward. The tumor was never free from pain and the complexion of the woman was markedly cachectic. The diagnosis was made of sarcoma either of the right ovary or of the omentum.

At the operation a very long incision was needed, reaching not quite up to the ensiform cartilage. The tumor was of a dark purple color and was attached in every direction by very long, tortuous, and wholly denuded vessels, which looked like the largest earth worms and were of analogous length. Most of the vessels came from the omentum, which had disappeared,

apparently by being incorporated with the tumor and by having its connective tissue and fat removed by absorption, leaving the bloodvessels bare. These vessels were either single or else grouped in large bundles and had all to be ligated. By them the tumor had evidently been nourished, for what looked like a pedicle was slender, long, and twisted. It was lost in such a mass of livid veins that Dr. Goodell did not dare follow it up to its source. His diagnosis had been sarcoma of the omentum, but he was so uncertain of it that he sent the specimen to Dr. Formad, who pronounced it a leukæmic spleen. It weighed not quite six pounds. The woman did well for four days, then symptoms of embolism set in, the sputa became streaked with blood, and she died on the sixth day. So far as he can learn from the literature on the subject his case made the eighteenth in which a leukæmic spleen had been extirpated and all had died save one.

DR. HARRIS said that the case of recovery after operation for removal of a leukæmic spleen spoken of by Dr. Goodell had occurred under Dr. Franzolini, of Nudine, in Northeastern Italy. The proportion of leucocytes was small, which accounted for the recovery of the patient. The diagnosis had been made before the operation.

DR. PARISH had a few years ago seen a case with the late Dr. Wallace in which a diagnosis of fibroid of the uterus had been made. A tumor the size of the two fists was found near the side of the uterus. The patient developed peritonitis and was tapped; some dark fluid was withdrawn. Death took place a few months after, the peritonitis having been cured. The spleen was adherent to the uterus and to the pelvic brim.

DR. GOODELL called attention to the hæmoptysis and hæmatemesis in his case, which were the usual symptoms of a leukæmic spleen; but he had not been informed of them until after the operation had been performed, and, therefore, he did not have that clew toward forming a diagnosis.

DERMOID CYSTS.

DR. GOODELL also exhibited two dermoid cysts which he had on that day removed from a girl aged sixteen years. He had brought the specimens down because the largest one contained daughter-cysts or, at least, round bodies resembling them; yet he had hitherto found that all dermoid cysts which he had removed were single chambered and did not contain smaller cysts.

DR. HAMILL presented

A FOUR WEEKS' OVUM

entire with the decidua. He presented this specimen for a twofold reason; first, on account of its comparative rarity, and, second, to elicit from the members their views on the after-treatment of abortion. The decidua vera is not, as a rule, thrown off with the ovum entirely. Dührssen says, "From a personal experience with more than 150 cases of abortion in the service of the Charité of Berlin," that "the retention of portions of the decidua vera is not the exception, but the rule," and Tarnier says "That ordinarily the uterine decidua remains adherent to the uterus." Whether it is safer to leave this in the uterus and allow nature to throw it off, or to remove it at once, is the particular point he should like to hear the members discuss. For his own part, he felt sure that it should be immediately removed.

DR. HIRST said that where the decidua vera is re-

tained, as is the rule in early abortions, one of two things happened; the mass either putrefied and thus became a source of septic infection, or it became greatly thickened and remained as a foreign body exciting frequent hemorrhage or leucorrhœa. He always cleaned away any débris left in the uterus after abortion.

DR. GOODELL agreed fully with Dr. Hirst as to the propriety of removing the retained fragments of the placenta or the membranes, but he had a word to say about the manner of their removal. He deemed the much vaunted curette, whether sharp or blunt, a very inferior instrument, especially so whenever the fragments had been retained for several weeks. Not only did the curette bruise and injure the unimplicated portion of the womb, but it tended to glide over the fragment, merely scraping its surface. Sometimes, indeed, it would hook up one end of the fragment, and, after causing a great and needless flow of blood, would slip off. So often had he been disappointed with it, nay, even alarmed by the great loss of blood, that he now used either a small fenestrated polypus forceps, when the os was dilated enough to admit it, or a slender handled catch-forceps. With these instruments the fragment was invariably seized and removed by a twisting movement, while the womb itself sustained no injury whatever. It was, in fact, safer to use these instruments in the womb than to catch a stone in the bladder with the lithotrite.

DR. PARISH had seen a number of mistakes made with the curette. He had been called to a case and found a woman who had been bleeding for four or five months. Her former attendant had curetted her and pronounced the womb empty. He and his colleague dilated the cervix and removed a body as large as his two fingers. In another case the uterus was curetted by the attending physician and pronounced empty. Within twenty-four hours the patient aborted. These cases well illustrate how one may be deceived as to when the uterus is empty when relying on the curette. In his own practice, after three months, if there is retention he introduces his finger and delivers everything. He thinks with Dr. Goodell that something more reliable than the curette must be used to enable one to say that the uterus is empty after abortions in doubtful cases.

DR. LONGAKER does not interfere before the third month at all unless the patient has decided signs of retention—such as hemorrhage, patulous os, etc.; otherwise it is, as a rule, safe to conclude that everything has come away. During the third, fourth, and fifth months retention is very frequent. He thought it surprising what a small portion of placenta would give serious trouble: even small shreds will keep up a very serious hemorrhage. He always removes everything which has been retained and uses the finger and very frequently anesthetizes the patient.

DR. R. STEWART asked the members of the Society in what proportion of cases they had to interfere. He has never used the curette for this purpose, and has never failed to remove with forceps of proper size. The hemorrhage generally ceases in from twelve to thirteen hours; if not he investigates and usually finds some débris left behind; but is convinced that, if there has been no improper interference at the time of the abortion, such cases are exceedingly rare. He agrees with Dr. Longaker as to the amount of trouble kept up by small pieces of membrane, etc.

DR. HAMILL also presented

A FŒTUS SHOWING INTRA-UTERINE RACHITIS.

This specimen presents a number of anomalies; probably the one most rare is the condition of intra-uterine rachitis; you will note the marked rachitic condition of both femurs. So far as he was able to find, but fifty-three cases have been collected by Schorlan and Gräfe. This condition of the bones in rachitis may be simulated by the arrest of bony development in those cases of foetal cretinism occasionally met with in Europe. The absence of the three fingers and corresponding metacarpal bones would, following the classification of Geoffrey St. Hillaire, place this among the hemeteratic class, and the subdivision of that class known as anomalies by numerical diminution. This form of monstrosity is not met with very frequently. The absence of the fibulas renders the specimen still the more rare.

EXCISION OF THE LARGE INTESTINE.

DR. J. PRICE exhibited a piece of the large intestine which had been removed that day by Dr. Charles B. Penrose. The patient, a woman, had not had a passage of the bowels for twenty-eight days. There was enormous distention. The constriction was easily found on the right side of the uterus and posterior. The intestine was punctured and a gallon or more of feces removed. The gut was then resected, a piece twelve inches long being removed. The two ends of the gut were then united in half their circumference and the other half stitched to the abdominal opening, making an artificial anus. Dr. Agnew had seen the case and had recommended immediate operation. The woman was a patient of Dr. Bernardy's. She is now doing well. He believed that Mr. Tait had first advised the preliminary puncture to relieve the distention in conditions that cannot be dealt with by resection. He had some letters from Dr. McMurtry, of Danville, Ky., who had been called forty-five miles into the country to see a physician twenty-six years old. On opening the abdomen he found two perforating ulcers of the cæcum with local peritonitis. He had trimmed the edges of the ulcers and closed with Lembert sutures; irrigation and drainage. On the fourth day, pulse 92, temperature 99°, and patient had complete evacuation of bowels.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, February 3, 1888.

THE PRESIDENT, JAMES PERRIGO, M.D., IN THE CHAIR.

DR. STEWART showed a case of

AMYOTROPHIC LATERAL SCLEROSIS,

and made the following remarks:

The patient, a man aged thirty-four, always enjoyed good health until his present affection began, about a year ago. The first symptom complained of was a feeling of pricking coupled with a cold sensation on the ball of the left thumb. Shortly afterward wasting of the thenar eminences was noticed, and this was quickly followed by wasting of the interossei of the same hand. The patient now has very marked atrophy of the left thenar and hypothenar eminences, of all the interossei

of the same side, with slight wasting of the flexors on the anterior surface of the forearm and of the biceps and deltoid of the same side. The spinati as well as the rhomboids and pectorals are the seat of marked atrophy. There is slight wasting of the corresponding muscles of the right hand, arm, and shoulder. The atrophic muscles are subject to fibrillary twitchings. Many apparently normal muscles are also subject to these twitchings; he complains of "waves of twitchings" passing through the muscles of the head. The muscles of the lower extremities are very frequently the seat of these troublesome twitchings. The left hand and shoulder atrophic muscles exhibit a modified reaction of degeneration, the contractions being very slow, while the ASZ < KSZ. During the past ten days there has been a gradually increasing loss of power in the left lower limb. This has now attained a degree almost sufficient to prevent the patient from going about. The degree of paralysis varies considerably from day to day. The paralyzed muscles are neither atrophied nor hypertrophied; they are, however, in a constantly hypertrophic state. There is marked exaggeration of the knee-jerk, ankle clonus is present. The biceps and triceps reflexes of the upper extremities are marked also. The integument over the wasted districts is constantly covered with a profuse, clammy perspiration, and at times a papular rash appears lasting only a few hours. There is no atrophy of any of the face muscles, and no history of heredity. The case is evidently myelopathic in origin. It is a well-marked example of Charcot's amyotrophic lateral sclerosis.

DR. SHEPHERD presented the right half of the lower jaw which he had recently removed for

PERIOSTEAL SARCOMA.

Patient, aged forty-nine; first noticed swelling six months ago, this was accompanied by the loosening of two molars. Swelling increased rapidly within the past three weeks. The tumor surrounded the jaw at its angle and was about the size of an orange, the bone was not affected. On microscopic examination it proved to be a round-celled sarcoma. Dr. Shepherd said in these cases the chance of local recurrence was very great.

DR. JOHNSTON exhibited for Dr. Ruddick a spinal column showing very extensive

CARIES OF THE VERTEBRÆ

with symmetrical psoas abscesses. The specimen was removed from a boy aged twenty. The caries involved the bodies of all the dorsal vertebræ. In front of the middle dorsal vertebra was a large abscess which had formed without giving rise to symptoms; this abscess was not connected with the psoas abscess. The bodies of the last dorsal and first and second lumbar vertebræ were completely destroyed, causing a marked angular curvature. The psoas abscesses were perfectly symmetrical, passing in front of the ilio-psoas muscle at Poupart's ligament, and following the tendon to the posterior part of the lesser trochanter, thus the abscesses had got to the back of the thighs. On the left side the abscess had reached the popliteal space. That on the right side presented a large fluctuating swelling in the middle of the back of the thigh and had filled up the space beneath the gluteal muscles. The abscess on the left side had been opened a few days before death and an enormous quan-

tity of pus evacuated. The lad had suffered from spinal caries for the last fifteen years, and had never had any treatment. Dr. Johnston failed to find any tubercle bacilli, either in the pus or in the walls of the abscess.

DR. JOHNSTON also presented a portion of the spinal column removed from a patient with

SPINAL CARIES AND GENERAL TUBERCULOSIS.

The bodies of the second and third lumbar vertebrae were infiltrated with extensive caseous areas, a small tuberculous abscess had formed on the right side at the level of the third lumbar body; this had involved a small vein opening into the vena cava inferior. There was acute miliary tuberculosis of both lungs, and this had caused his death. The patient had been under the care of Dr. George Ross, and had complained of very severe and deep-seated pain referred to the right sacro-iliac articulation.

DR. SHEPHERD presented the kidneys and bladder removed from a patient on whom he had performed

NEPHROTOMY.

The history of the case is as follows: C. W., æt. sixty-six, a tall, thin man, who had always been healthy, though there was a tuberculous family history, some two years ago suffered from two attacks of well-marked renal colic affecting the left side. After this he made water more frequently, and occasionally passed bloody urine. He, however, attended to his business as usual. About a year ago he first noticed that his water was thickish; it would be clear for some days, then have quite an amount of deposit. His health failed considerably during the last six months, and in October last he took to his bed on account of a chill. The amount of "sediment" in the urine increased and micturition became painful as well as frequent; pain was referred to the point of the penis. In addition to this he had severe lumbar pain, chiefly on the right side.

Dr. Shepherd first saw him in the latter end of December, 1887. He was then in bed and suffering from disordered stomach, frequent and painful micturition, and severe lumbar pain. Examination of the bladder discovered a moderately enlarged prostate, but no stone. Urine, specific gravity 1010; alkaline; quantity daily, forty-five to fifty ounces, of which about one-sixth was thick pus. The urine was perfectly sweet smelling. On examining the lumbar region there was found to be much more resistance over the right kidney than the left and palpation gave a sense of fullness. Pressure below the last rib on the right side caused severe and sharp pain, pressure on the left side caused no pain. Dr. George Ross saw the patient with Dr. Shepherd and he was examined under ether and a distinct tumor was made out in the right lumbar region in the neighborhood of the kidney. By aspiration at this point some four or five ounces of clear fluid were drawn off, but no pus. This fluid was odorless, but on examination proved to be urine. After examination the patient passed bloody urine for two days. The diagnosis made was calculous pyelitis probably of the right kidney, but the history of renal colic on the left side and the evacuation of clear fluid from the right kidney made the diagnosis doubtful.

As the patient was growing rapidly weaker and was passing enormous quantities of pus, it was suggested that an operation might relieve the patient, though the

result would be doubtful. On January 21st Dr. Shepherd, assisted by Dr. Fenwick, cut down on the right kidney. It was found embedded in a large amount of fat. On examination it was seen that the pelvis and calices were much distended; the kidney was incised and some six ounces of fluid evacuated; there was no pus but only clear, odorless fluid. The kidney was explored, but no pockets of pus discovered and no stone, the wound was sutured and a large drainage tube introduced. The patient recovered well from the operation, but secreted no more urine, rapidly became uræmic, and died two days later. Of course, when the condition of the incised kidney was seen it was supposed that the wrong kidney had been cut down on; however, a post-mortem examination revealed a similar condition of the left kidney.

Dr. Johnston made the post-mortem examination and his report is as follows:

"Autopsy, twelve hours after death. A very strong urinous ammoniacal odor noticed about the body, which was well nourished. Abdomen only examined. The kidneys did not project below the level of the last rib. Both ureters distended to almost the size of forefinger. The kidneys on both sides showed marked hydronephrosis with dilated pelvis and calices, papillæ flattened. Renal substance atrophied and microscopically showed extensive cirrhotic changes, but was free from any appearance of true inflammation. The pelvis and ureters contained opaque purulent looking fluid, but the mucosa nowhere eroded. Bladder contained about ten ounces of dark urine and pus was sacculated behind prostate and the middle lobe was enlarged but soft. Muscular coat of bladder much thickened and trabeculæ prominent, the mucosa, on the contrary, was very thin and atrophied and showed deep-seated pigmentation."

Dr. Johnston, in commenting on this case, said the most interesting symptom was the presence of what appeared to be pus in the urine—that is, a dense cellular deposit not accompanied by much mucus. This had always been given as a sign by which suppuration of the kidney could be distinguished from catarrh of the bladder and in this case had materially influenced the diagnosis. Here, however, there was no true pus present in the sense of a product of suppuration accompanied by necrosis. The anomaly was probably explained by the condition of the bladder mucosa which showed a marked atrophy; in most cases of cystitis following prostatic obstruction the bladder mucosa is greatly thickened. This atrophic mucous membrane being unable to secrete any considerable amount of mucin had made the appearance of the urinary deposit very misleading. The absence of mucus was the reason why the urine was not foul.

Dr. Shepherd said he had now no doubt that the case was originally one of enlarged middle lobe of the prostate followed by secondary changes in the ureters and kidneys the result of obstruction. Still, he thought the case a very obscure one and one in which the diagnosis of calculous pyelitis was justifiable both from the history and symptoms. Dr. Johnston had explained the reason of the absence of mucus and the cause of the urine remaining sweet, but the deposit was so large in amount that it must have proceeded from the whole urinary tract and not from the bladder only.

DR. KENNEDY read a paper on a case of

DIABETES

in which a daily analysis of the urine had been made from October, 1886, to August, 1887. The patient was a female, aged twenty-eight years. Tables were shown recording the daily quantity of urine, the specific gravity, amount of sugar, urea, and amount of fluid and food taken. At the commencement of the treatment the average daily amount of sugar was seven ounces. Codeia was first given with benefit, but lost its effect during the second week, when the patient's condition became serious. On December 10, 1886, nitro-glycerine was given and continued with slight intermissions for five months; its action was markedly beneficial, for the patient's condition steadily improved.

So far as Dr. Kennedy was aware, this was the first time the remedy had been used in diabetes. Jambol was given for a short time as an additional remedy, but not continued. Iron, strychnine, etc., were also given for the anæmia. A strict diabetic diet was followed with saccharine as a sweetening agent. In July, 1887, no medicine was given as the patient was almost well and during the last week of the present month (January, 1888) the patient's condition was normal and there was no sugar in the urine. At the present time the patient is perfectly well. During the ten months the urine was examined the patient excreted fifty-two pounds of sugar.

DR. RUTTAN said that this case deserved more than a passing notice. There was probably not another case on record in which such an accurate and thorough analysis of the urine had been made. A daily quantitative estimate of the most important constituents of a diabetic patient's urine, extending over a period of ten months, should reveal something of interest. It was important to note the fact that whenever there was a sudden decrease in the percentage of sugar there was an increase in the acetone group of excreta and this was accompanied by the most alarming symptoms. Whether there was any relation between the quantity of sugar and acetyl-acetic acid excreted has not been determined, but there are few who believe that the symptoms of diabetes are due to the sugar or want of proper assimilation of carbohydrates. If these acetone products do not of themselves produce the toxic symptoms and coma of diabetes, their appearance during and preceding coma is a remarkably common coincidence. In a recent case of sudden diabetic coma Dr. Ruttan had examined the urine, found it a trifle pale and with no acetone odor when fresh. Sp. gr. 1020; only 2.7 per cent of sugar, but the acidity was equal to $\frac{3}{100}$ of a grain of oxalic acid per ounce, and it was loaded with acetyl-acetic acid. In another case recently examined by the speaker, for life insurance, no sugar reaction was obtained by Fehling's solution, but the acetone reaction was marked. Sp. gr. normal. Two days later this patient's urine gave 3 per cent. of sugar and no acetone. Sp. gr. 1028. The specific gravity of diabetic urine is no index to the quantity of sugar, nor, indeed, if acetone be found, is it in relation to the total solids, for the acetone and alcohol resulting from the decomposition of acetyl-acetic ether will greatly lower the specific gravity. Dr. Ruttan, in conclusion, stated that no work of much clinical interest could be done in connection with acetonæmia or diacetonæmia until a more convenient method

of isolating acetone is found than that recommended by Salkowski.

DR. T. WESLEY MILLS said that the elaborate daily analysis of the urine in Dr. Kennedy's case could not but prove of value. We have much to learn yet about diabetes. Why should irritation of the fourth ventricle produce sugar? He was not himself satisfied with the present condition of our knowledge of the medulla, and doubted much whether it has all the centres that are attributed to it. It seemed to him that when we do not know where to put a centre we place it in the medulla. He hoped Dr. Kennedy would publish the tables of his analysis of the urine in full.

NEWS ITEMS.

The Crown Prince.—The *British Medical Journal* of February 4th states that the slough which came away on January 17th, from the site of the growth which excited so much alarm in November, was more than three-quarters of an inch long. The raw surface left by the separation of this piece of disorganized tissue has now almost entirely healed, and the condition of the neighboring parts is highly satisfactory. There is, however, some thickening about the right side of the larynx; and though the present appearances seem almost to negative the theory that the disease is malignant, a dangerous amount of narrowing of the breath-way may be caused by simple inflammatory swelling. Under these circumstances it is thought not improbable by the physicians in charge of the case that tracheotomy may become necessary, possibly at no very distant date. This contingency, however, while requiring to be kept in view, need not cause any special anxiety as to the prolongation of the life of the illustrious patient.

As is well known, the tracheotomy, which was foreshadowed in the above article, has since been performed.

In reference to the pathological character of the slough from the site of the growth, the *Lancet* states, on the authority of the *Vorsiche Zeitung*, that Professor Virchow, after the most careful and minute investigation, is unable to discover in the portion submitted to him anything of a really serious character.

Sanitary School Reform.—The Commissioners of Public Schools of Baltimore, Md., have taken the initiative in the introduction into the public schools of that city of a series of reforms which, if adopted, will be of great benefit to the pupils. This action is the more noteworthy from having originated in the School Board, the proposition coming from its Committee on Health, and not being forced upon it by the Board of Health or public opinion. It is greatly to be hoped that the Mayor and Common Council of the city will give the necessary power and money to carry these resolutions into effect. After a preamble to the effect that sanitarians and teachers have proven that children attending school are frequently subjected to influences prejudicial to health, which often leave their effects upon the constitution for life, and that it has been demonstrated, that, by expert sanitary supervision of schoolhouses and of the pupils themselves, many of these injurious influences can be mitigated and removed, the resolutions are, that the Mayor and City Council be requested to authorize the Commissioners of Public Schools to appoint an officer, who shall be a physician and expert in sanitary science, to be known as the Sani-

tary Superintendent of Public Schools, whose duty shall be, 1st, to examine carefully all plans submitted for the construction of new schoolhouses, and suggest such modifications as may be necessary from a sanitary point of view; 2d, to advise with the Commissioners with reference to necessary alterations in school buildings to improve their hygienic condition; 3d, to examine all textbooks before adoption, in order that type, printing, or paper injurious to the eyesight of pupils may be avoided in selecting such books; 4th, to satisfy himself, by personal examination, if necessary, that all pupils admitted to the schools have been properly vaccinated or are otherwise protected against smallpox; 5th, to take such other measures, in conjunction with the Health Commissioners of the city, as may be necessary to prevent the spread of contagious diseases in, or through the medium of the public schools; 6th, to examine annually the eyesight of all children attending the public schools, and keep an accurate record of such examinations; 7th, to report annually, or as often as may be required by the Commissioners, upon the sanitary condition of the schools, and of the pupils attending them, and to advise the Commissioners upon sanitary questions connected with schools whenever required; 8th, to give instruction, by lectures or otherwise, to the teachers in the schools upon the elementary principles of school hygiene.—*Science*, February 3, 1888.

The Electric Light for Reading Rooms.—In the annual report for 1887 the "Stadtphysicus" of Prague, Dr. Zahor, urges the introduction of electric lighting into the public reading rooms. He states that Dr. Fr. Renk, assistant to Professor Pettenkofer, has had the opportunity of making a series of experiments on the utility of the electric light from the sanitary standpoint, in the "Nationaltheatre" of Munich, which is supplied with 1700 Edison lights. He has thus been able to prove that the electric light had hardly any influence on the deterioration of the air, whereas the gaslight raised the temperature of the room, deprived the air of its oxygen, and rendered it injurious by increasing the carbonic acid, especially in the higher regions. It could also be easily imagined that the elevation of temperature produced by the gaslight, the increase of the carbonic acid, and the diminution of the oxygen in the air reached a much higher degree in confined working rooms than in a spacious, well-ventilated theatre. Considering that when the electric light was used such an increase of the local temperature could never take place as when gaslight was employed, and that in the latter case headaches referred to those parts of the head which were directly exposed to the influence of the rays of light, neuralgias, and local hyperemias supervened; furthermore, that no carbonic acid was developed, and that no oxygen was consumed by the electric light; and lastly, that, although the electric light was very powerful, its intensity could be diminished by shades—it became evident that the more general adoption of the electric light would be very advantageous from the hygienic point of view.—*British Medical Journal*, January 28, 1888.

A Series of Evening Lectures on special subjects will be given by the faculty of the Philadelphia Polyclinic at the college building, Broad and Lombard Streets. Dr. Leffmann will open the course on the 28th inst., subject:

Office Testing of Urine. Members of the profession are invited to attend.

The Extermination of Rabbits.—The *British Medical Journal* writes that M. Pasteur's plan of exterminating rabbits by the spread of fowl cholera has been tried in a walled field near Rheims, where both gun and ferret had proved ineffectual. M. Loir, nephew of M. Pasteur, went down and poured on a truss of hay some broth full of the microbes of chicken cholera. The next day nineteen dead rabbits were found, and two days later twelve more. In some of the burrows were discovered families of dead rabbits, and not one living rabbit has since been seen.

A Polish Medical Congress will be held in May, 1888, at Lemberg.

New Teachers at Vienna.—The following *Docenten* have recently been appointed: Drs. Neusser (Medicine); Hochstetter (Anatomy); Kolisko and Paltauf (Pathological Anatomy); Ehrmann (Dermatology and Syphilis); v. Hacker (Surgery); Unger and Frühwald (Diseases of Children).

An Itinerant Dispensary.—An itinerant clinic or dispensary has been established in Roumania under the direction of Dr. Bejan, of Bucharest. During last summer, itinerations were made in two districts in which there is a great scarcity of doctors, and no less than 9000 patients were treated.

Professor Senator has been appointed Director of the Medical Department of the Berlin University Polyclinic.

Another New Anæsthetic.—The *Medical Press and Circular* of January 25, 1888, reports that DR. LEWIN, having been commissioned to examine a new arrow poison forwarded by Messrs. T. Christy & Co., reports that it is a powerfully toxic agent when injected subcutaneously, even in quantities of $\frac{1}{100}$ th grain. It also possesses marked anæsthetic properties when applied to the cornea, but its use was followed by some irritation. A careful examination of the substance has enabled him to identify it with the *Haya* arrow poison, obtained from the *Erythrophloeum judiciale*, which, when pure, produces insensibility of the cornea without irritation.

A Generous Transfuser.—The *British Medical Journal* reports that on January 13th, Dr. Eustace, a young practitioner at Alresford, Hants, was summoned at midnight, and found his patient suffering from uterine hemorrhage. This he stopped, but in the morning the patient was almost pulseless and sinking fast. Dr. Eustace, with no one to help him but an old woman, opened a vein in his arm and tried direct transfusion, but lost a quantity of blood, so, allowing over six ounces of blood to drop into a basin, he injected it with a syringe, with the result that the patient after a week had recovered.

Electric Sunstroke.—The Paris correspondent of the *Medical Press and Circular* of January 18, 1888, writes that at a recent meeting of the Academy of Medicine M. Terrier read a paper on "electric sunstroke" observed in some workmen at the great foundry of the Creusot, who

smelt steel by electricity. The neck, face, and arms of the men became red and painful, and, finally, desquamation took place as witnessed in burns of the first degree. M. Terrier said that he exposed his arm during a few minutes to the action of the incandescent electric light and at the end of an hour the arm assumed an intense redness, which, at the end of four days, gave place to the ordinary desquamation. As to the cause of these symptoms he considered it difficult to determine, as heat could not produce them since electricity emits hardly any caloric.

Women Pharmacists in Italy.—There is a dearth of pharmacists in the rural districts of Italy. The Minister of the Interior recommends that women be given opportunity to study and practise pharmacy, although he would not go so far as to allow them to receive the degree of pharmaceutical chemist. That will come, however, in due time.—*Exchange*.

French Toilet Articles.—The *American Druggist* for January, 1888, writes that in a report submitted to the Hygienic Council of Paris by Drs. Dubrisay and Chafin, the authors state that the perfumery and toilet products now sold contain so many noxious substances that it is desirable the factories should be placed under special surveillance. They give a number of instances in support of their statement. The so-called "harmless and purely vegetable" hair dyes, they say, are all poisonous. "Progressive dyes" are ammoniacal solutions of nitrate of silver. The "instantaneous dyes" are a solution of litharge in lime water. "Eau des Fées" is a solution of sulphate of lead in hyposulphite of soda. "Eau Figaro" consists of three solutions (1) of nitrate of silver and sulphate of copper; (2) sulphide of sodium; (3) cyanide of potassium (to remove the silver stains). "Eau des Fleurs" is composed of rose water, 95.5; flowers of sulphur 2.7; acetate of lead, 2.8. Passing to cosmetics, they say "Lait antipellique" is composed of corrosive sublimate, 1.7; oxide of lead, 4.22; sulphuric acid and camphor. "Lait de manille" is a mixture of borax, copper, tincture of benzoin, and essence of bitter almonds; "Lait de Ninon," of bismuth and zinc; "Eau Magique," oxide of lead and hyposulphite of zinc; "Eau de fleur de lys," protochloride of mercury; "Eau royal de Windsor," glycerin and oxide of lead; "Eau de Castille," hyposulphite of soda and acetate of lead. The "Poudre Pilivore de Laforet" contains mercury (?), 60 grs.; sulphide of arsenic, 30 grs.; litharge, 30 grs., and starch, 30 grs. "Epitene" is simply sulphite of calcium, and "Antiboldos" hyposulphite of soda. Pomades against baldness all contain cantharides and croton oil.

Permanganate of Potassium in Toothache.—In the *Russkaia Meditsina*, No. 19, 1887, p. 330, Dr. Prokopy Popoff, of Minüsinik, in "Siberian Switzerland," writes that he has most successfully treated upward of three hundred cases of toothache from dental caries by administering one-twentieth per cent. solution of permanganate of potassium in the form of a mouth wash. The following is the formula: R.—Potass. permang., 3 grains; aq. destil. or fontanæ, 1 (Russ.) fl. pound.—Misc. One tablespoonful to be taken in the mouth, every half hour, and to be held therein on the affected side for several minutes. The most agonizing pain is said gradually to disappear

in a few hours. The wash acts, besides, as an excellent deodorizer.—*British Medical Journal*, January 7, 1888.

A Terrible Suicide.—The *British Medical Journal* reports that in the case of Rear-Admiral Verstrume, who died by his own hand at Falmouth, the deceased was found to have thrust a red-hot poker three or four times into his abdomen.

A Hygienic Kitchen.—In an article in the *Popular Science News* for January, 1888, Dr. Crowell describes a healthful kitchen as follows:

The kitchen should receive special attention, for it is here where the important work of the household is done. And yet how often is this apartment neglected in the plan of the house, and crowded away in some angle, small, dark, and inconvenient. A kitchen should be at least fourteen feet square, with ample arrangements for range, sink, and other culinary appliances. The sink should be thoroughly trapped, the water that supplies the tank should not come from the cistern that feeds the water-closets, and the drip-pipe of the refrigerator should not enter the general sewer. The backs of sinks and wash-tubs should be protected with high soapstone slabs, to prevent the accumulation of moisture and filth; and care should be taken that no waste material finds lodgement in any of the crevices or traps. Open plumbing should be observed, and no place should be found under sinks for mops or rubbish. The floor should be solid and seamless, with grooved edges where it joins the mopboard. This concave line prevents the accumulation of dust and vermin, and greatly facilitates the process of cleaning the floor.

To Cool Water Without Ice.—Where ice cannot be procured, water may be cooled by wrapping the pitcher containing it in a towel of loose texture which has been previously impregnated with ammonium nitrate (and dried) and moistening this with water. The same towel may be used repeatedly, being dried thoroughly beforehand each time.—*Pharmaceutical Era*.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 7 TO FEBRUARY 13, 1888.

JANEWAY, JOHN H., *Major and Surgeon*.—Detailed as a member of the Army Retiring Board in San Francisco, Cal., covered by S. O. 168, A. G. O., July 22, 1886.—S. O. 28, A. G. O., February 4, 1888.

HOPKINS, WILLIAM E., *Captain and Assistant Surgeon*.—Detailed as a member of the Army Retiring Board in San Francisco, Cal., covered by S. O. 168, A. G. O., July 22, 1886.—S. O. 28, A. G. O., February 4, 1888.

JARVIS, NATHAN S., *First Lieutenant and Assistant Surgeon*.—Ordered from Fort Lewis, Colorado, to Fort Leavenworth, Kansas.—S. O. 30, A. G. O., February 7, 1888.

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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